ELEVENTH-YEAR RESTORATION MONITORING REPORT FOR THE BLACKWELL LANDFILL PRAIRIE RESTORATION

Prepared for:

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175 West Jackson Boulevard
Suite 1900
Chicago, Illinois 60604-2814

January 2012

Conservation Design Forum

375 West First Street
Elmhurst, Illinois 60126

ELEVENTH-YEAR RESTORATION MONITORING REPORT

FOR THE

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Warrenville, Illinois

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CONSERVATION DESIGN FORUM
Project No. 11036.00

Prepared by: Kenneth C. Johnson

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Project Manager

Date: January 10th, 2012

TABLE OF CONTENTS

EXECUTIVE SUMMARY

- This report documents restoration maintenance activities, as well as vegetation monitoring data that occurred during the 2011 calendar year at the Blackwell Landfill prairie restoration site. The monitoring data represent the *tenth* full growing season of the native landscape reconstruction. The first monitoring year (2001) documented the prairie seed installation, and established baseline transect data.

- Restoration maintenance activities completed in 2011 included: prescribed burn; targeted weed control via herbicide applications and plant removal from late spring through fall; and miscellaneous woody sapling removal. In addition, native prairie seed was collected and dispersed across the project site and fire breaks were mowed in preparation of a controlled burn that is planned for spring of 2012.

- The results of the vegetation monitoring indicate the landscape is developing as should be expected for a prairie reconstruction that has completed its tenth year of growth from seed. Some portions of the landscape lack uniform prairie cover; this is primarily due to challenging site conditions such as steep slopes and compacted soils. In many other portions of the site, prairie vegetation is well established.

- Time and continued maintenance (annual controlled burn and native seed collection and dispersal) are necessary for the site to mature into a more evenly-disposed prairie landscape. Overall floristic quality values should remain around their current levels with continued maintenance.

- At this point the prairie landscape at Blackwell Landfill is typical of many native landscape reconstructions of similar scale and age. Overall, the landscape is doing well, due in large measure to dedicated maintenance activities that have been performed every year since the initial seed installation. In time and with continued maintenance, there is reason to believe that prairie grasses will be well-dispersed across all portions of the project site. At this point in its maturity, the site itself can be the source of most of the prairie seed used in seed collection and dispersal.

INTRODUCTION

PROJECT SITE LOCATION AND PURPOSE

As depicted on EXHIBIT A – PROJECT LOCATION MAP, Blackwell Landfill is located north of Butterfield Road (Route 56), between Batavia Road and Winfield Road, in Warrenville, DuPage County, Illinois (SW1/4, Section 26, T39N, R9E). The site is owned and operated by the Forest Preserve District of DuPage County. As detailed on EXHIBIT B – BLACKWELL LANDFILL PRAIRIE RESTORATION, the project area includes most of the slopes across the landfill.

The purpose of prairie restoration monitoring is two-fold. First, restoration monitoring is a fundamental component to all *de novo* ("from scratch") native landscape reconstructions to assess the vegetation development and make recommendations for proper land management. Another important purpose of monitoring is to provide data to the U.S. Environmental Protection Agency in regards to the development of the native landscape across the landfill slopes as outlined in the approved restoration plan (Montgomery Watson Harza and Conservation Design Forum, 2000).

RESTORATION ACTIVITIES CONDUCTED IN 2011

The following is a chronological list of management activities that were conducted at the prairie restoration site in 2011. [See earlier monitoring reports for activities that were conducted in previous years.]

- April 21st: prescribed burn, with approximately two-thirds of the prairie landscape burned to ash.
- May 18th; June 22nd; August 10th: targeted weed control of (primarily) Field Thistle, Crown Vetch, and Bird's Foot Trefoil using Tahoe™, Roundup™, or a mixture of *Garlon*™ and a 2,4-D herbicide; hand-pull individuals of Sweet Clover.
- August 10th; September 15th; October 11th: targeted weed control; collect and store prairie seed; mow fire breaks around gas vaults.
- October 13th and 18th: hand-mow fire breaks around gas vaults and via tractor around site perimeter in preparation for a spring 2012 controlled burn; targeted weed control; collect prairie seed; disperse all collected prairie seed.
- December 16th: cut woody re-sprouts; remove cut debris from site; apply herbicide to cut stumps.

The prescribed burn in April was conducted by the Forest Preserve District of DuPage County. All other maintenance at the site was performed by V-3 Consultants (Woodridge, IL).

MONITORING METHODS

There are many ways to monitor *de novo* restorations and measure their performance. The approach utilized in this project emphasizes vegetation development and floristic quality assessment (FQA) methods. This is consistent with the approved landscape restoration plan and this monitoring strategy has been utilized at the site over the past several years. In summary, the vegetation is sampled along transect lines established within representative portions of the project site, and a qualitative inventory of the vegetation across the entire landscape is recorded as well. These vegetation sampling protocols are repeated every year so that trends in floristic development can be monitored over time.

A critical component in the evaluation of a prairie restoration is to determine the extent of native species recruitment and establishment across the landscape. A useful method in the determination of floristic quality is through an analysis of the conservatism and diversity of species that are recorded during the monitoring event. Conservatism represents the degree to which an experienced field botanist has confidence that a given species is representative of a high-quality, remnant habitat (i.e., those natural areas with intact presettlement structure, composition, and processes). Native plant species display varying degrees of tolerance to disturbance, as well as varying degrees of fidelity to specific habitat integrity. Native plants of a given region exhibit an observable range of conservatism, and each native species can be assigned a *coefficient of conservatism* (C value) ranging from 0 to 10, "weedy to conservative," that reflects its disposition.

The Mean C is the average coefficient of conservatism for a site. The floristic quality index (FQI) is a statistic derived by multiplying Mean C by the square root of the number of species inventoried; thus, the FQI is a function of conservatism and diversity. In general, site inventories with FQI values less than 20 are degraded or derelict plant communities, or are very small habitat remnants. Site inventories with FQI values in the twenties through low thirties suffer from various kinds of disturbance, but generally have potential for habitat restoration and recovery. When site inventories have FQI values in the middle thirties or higher, and/or have Mean C values of 3.4 or higher, one can be confident that there is sufficient native character present for the area to be at least regionally noteworthy. Site inventories with indices in the middle forties and higher are undoubtedly significant natural area remnants of statewide importance.

As management and time cause changes to take place, Mean C and FQI values will reflect the extent to which conservative species are being recruited and the floristic quality is improving. If an inventoried site has a large proportion of conservative plants, the Mean C is higher; in a degraded site, the Mean C is lower. The presence of a large proportion of adventive species and non-conservative native species suggest that an area is degraded. The Mean C and FQI values for a sampling transect are calculated for the transect as a whole and for the average quadrat; a comparison of floristic values between the transect and quadrat level is useful to understand the uniformity of native species establishment.

Another useful measurement that is important in the evaluation of a *de novo* landscape restoration is that of the wetness value (W). Each plant species has been assigned a wetness category that indicates its probability of occurrence in a wetland. Plants are designated as *Obligate Wetland* (OBL=-5), *Facultative Wetland* (FACW=-3), *Facultative* (FAC=0), *Facultative Upland* (FACU=3), and *Obligate Upland* (UPL=5). For about 20% of our flora, a "+" or "−" sign has been attached to the three *Facultative* categories to express the exaggerated tendencies of those species. The "+" sign denotes that the species generally has a greater estimated probability of occurrence in wetlands; the "−" sign denotes that it generally has a lesser estimated probability of occurrence in wetlands. Mean wetness values can be compared from year to year to gain an understanding on what type of plant species have become established across the restoration site.

Four straight-line transects have been established across the Blackwell Landfill prairie restoration. A description of each transect location is as follows, and their locations are depicted on EXHIBIT B. These are the same transects used in the restoration monitoring events that have been conducted in previous years.

Transect 1 is located at vault cover "DV-10" in the northwestern portion of the site. The transect is oriented 0° north, and the first quadrat is placed 10 paces north of the vault cover.
Transect 2 is located at vault cover "DV-17" in the western portion of the site. The transect is oriented 90° east, and the first quadrat is placed 5 paces east of the vault cover.
Transect 3 is located at vault cover "DV-13" in the southeastern portion of the site. The transect is oriented 270° west. The first quadrat is placed 5 paces west of the vault cover.
Transect 4 is located at vault cover "DV-18" in the northeastern portion of the site. The transect is oriented 45° northeast. The first quadrat is placed 5 paces northeast of the vault cover.

A 0.25m^2 quadrat is placed at 10-pace intervals along each transect line until 10 quadrats are sampled. The vegetation within each quadrat is identified and given a relative cover/abundance number from 1 to 5 as shown in Table 1 below. A compass is used to stay on the correct orientation, and photographs are taken at the start of each transect in order to document the current site conditions.

Table 1. Summary of cover/abundance values

COVER/ ABUNDANCE NUMBER	APPROXIMATE COVER
1	1 to 5 plants present
2	5% to 25% cover
3	25% to 75% cover
4	Common/scattered throughout
5	Ubiquitous

The cover/abundance data is used to determine the relative importance value (RIV) for each species recorded along a transect. The RIV of each species is calculated by summing relative frequency and relative cover and dividing by 2. This and other information gathered via transect sampling offers important quantitative data that is used to interpret the development of the native landscape.

RESULTS AND DISCUSSION

The results of the plant inventories and transect sampling are presented below. The field work occurred on September 16th, 2011 and was performed by Kenneth Johnson. The weather conditions during the monitoring event were cloudy, with air temperatures around 80° Fahrenheit, so sampling conditions were satisfactory. Photographs taken during the field work are included at the back of the report. Refer to EXHIBIT B for a plan view of the project site.

GENERAL PLANT INVENTORY AND FQA DATA

The results of the plant inventory and associated FQA data for the Blackwell Landfill prairie restoration are presented in APPENDIX I. Table 2 below summarizes the total number of native species recorded during the inventory (NS), along with the percent that these native species comprise of all plants recorded (%TS). The last two columns are the native Mean C and FQI values. For comparative purposes, these same data are presented from the restoration

monitoring conducted in previous years. Also shown is similar data from 1999 when a fall vegetation inventory of the landfill slopes was conducted (as part of the initial planning efforts for the landfill landscape, prior to any landscape restoration).

Table 2. FQA data summary

PLANT INVENTORY & FQA DATA SUMMARY			
Year	NS (%TS)	Mean C	FQI
1999	37 (44%)	1.8	11
2001	53 (47%)	1.7	13
2002*	42 (46%)	2.2	14
2003	71 (56%)	2.5	22
2004	72 (55%)	2.8	23
2005	57 (49%)	3.2	24
2006	72 (60%)	3.1	27
2007	61 (57%)	2.8	22
2008	56 (59%)	2.8	21
2009	69 (60%)	3.2	27
2010	72 (60%)	3.2	27
2011	70 (61%)	3.1	26

* = First full growing season of the *de novo* prairie landscape.

The results of the inventory data indicate a positive trend in the establishment of the initial landscape restoration over the past several years. Based upon these data and general site observations during the 2011 calendar year, the prairie is developing as expected for having completed its tenth full-growing season since installation (installation occurred in early summer of 2001).

As in the past few years, the most frequently encountered species noted during the September meander/inventory included: prairie grasses such as Side-oats Grama, Canada Wild Rye, and Indian Grass, and cool-season Eurasian grasses such as Smooth Brome and Quack Grass. The back slopes are dominated by Crown Vetch and Eurasian grasses.

As has been documented in previous reports, some portions of the landscape have been slow to establish a uniform cover of prairie vegetation due to steep slopes and compacted soils. On the other hand, other portions of the site have a well-established cover of prairie grasses and have performed very well. Overall, these FQA values should remain around their current levels as long as routine maintenance is continued.

TRANSECT SAMPLING AND FQA DATA

The results of the four straight-line transects are presented in APPENDIX II. As stated above, each transect runs through a representative portion of the prairie landscape, and each is the same as that sampled in previous years. Transect sampling helps to quantify the vegetation changes and landscape development at the site. A comparison of floristic values between

the transect and the quadrat level data is useful to understand the uniformity of native species establishment.

Tables 3—6 below presents a summary of the data collected for each transect. The aggregate transect data are presented separately from the average quadrat data. The number of native taxa (NT) is given, along with native Mean C and native FQI values. For comparative purposes these same data from past restoration monitoring are included in the table.

Table 3. Transect 1 data summary

T1	TRANSECT DATA SUMMARY			AVE QUADRAT DATA SUMMARY		
YEAR	NT	MEAN C	FQI	NT	MEAN C	FQI
2001	6	2.5	6	1.7	0.7	1.0
2002	11	1.8	6	2.4	2.7	4.2
2003	12	2.7	9	3.1	2.9	5.0
2004	10	3.1	10	2.6	4.8	6.9
2005	7	3.7	10	2.0	3.8	5.3
2006	9	4.1	12	2.7	2.9	5.6
2007	14	2.9	11	3.2	4.1	6.8
2008	10	3.1	10	2.0	2.3	4.0
2009	16	3.0	12	3.0	4.6	7.6
2010	12	2.6	9	1.4	2.2	2.8
2011	11	3.7	12	2.7	4.2	7.0

Table 4. Transect 2 data summary

T2	TRANSECT DATA SUMMARY			AVE QUADRAT DATA SUMMARY		
YEAR	NT	MEAN C	FQI	NT	MEAN C	FQI
2001	9	3.0	9	0.9	0.5	1.1
2002	8	2.5	7	1.4	2.6	3.7
2003	11	2.7	9	2.0	2.3	3.7
2004	17	2.8	11	2.4	1.3	2.4
2005	10	2.7	9	1.7	2.2	3.1
2006	11	1.8	6	1.4	1.1	1.5
2007	12	3.4	12	1.9	1.7	2.7

T2	TRANSECT DATA SUMMARY			AVE QUADRAT DATA SUMMARY		
YEAR	NT	MEAN C	FQI	NT	MEAN C	FQI
2008	6	1.5	4	1.3	1.2	1.5
2009	6	2.2	5	1.5	1.1	1.6
2010	7	1.4	4	1.4	1.5	1.8
2011	3	3.0	5	0.9	1.0	1.2

Table 5. Transect 3 data summary

T3	TRANSECT DATA SUMMARY			AVE QUADRAT DATA SUMMARY		
YEAR	NT	MEAN C	FQI	NT	MEAN C	FQI
2001	8	0.6	2	2.1	0.2	0.3
2002	11	2.1	7	2.8	1.4	2.6
2003	12	2.7	9	3.7	2.1	4.5
2004	15	3.0	12	2.9	3.1	4.9
2005	16	3.6	14	3.9	3.3	6.2
2006	19	3.8	17	3.5	3.1	5.9
2007	16	2.4	10	3.8	2.7	5.2
2008	20	4.0	18	4.2	4.2	8.5
2009	17	3.4	14	3.5	3.3	6.4
2010	26	3.0	16	4.3	3.3	6.7
2011	18	4.0	17	4.1	3.8	7.8

Table 6. Transect 4 data summary

T4	TRANSECT DATA SUMMARY			AVE QUADRAT DATA SUMMARY		
YEAR	NT	MEAN C	FQI	NT	MEAN C	FQI
2001	8	0.6	2	2.4	0.1	0.3
2002	13	3.0	11	3.3	4.4	7.3
2003	22	3.1	15	5.6	3.2	7.9
2004	16	4.0	16	4.6	4.7	9.7
2005	19	4.0	17	4.3	4.7	9.7

T4	TRANSECT DATA SUMMARY			AVE QUADRAT DATA SUMMARY		
YEAR	NT	MEAN C	FQI	NT	MEAN C	FQI
2006	16	4.1	17	4.6	4.2	9.4
2007	17	4.8	20	4.3	4.7	10.1
2008	17	4.1	17	4.3	4.2	9.1
2009	18	4.4	19	4.8	4.8	10.5
2010	17	4.2	17	4.1	4.0	8.5
2011	19	4.1	18	4.2	4.1	8.6

A summary of these data is very much the same as what was stated last year, namely:

- Targeted weed control, compacted soils, and/or steep slopes in the areas of the site where Transects 1 and 2 are located have hindered prairie vegetation establishment. New- and Old-world weeds remain common and dominate some portions of these (and other) areas of the site. Continued overseeding of native prairie grasses and annual burn management will, in time, help to improve native vegetation cover.
- The landscape in the vicinity of Transects 3 and 4 continues to show generally impressive FQA values for a native landscape recreation. It is likely these results will level off at or near these current figures.

The relative importance values (RIV) for the top 50% of species from each transect are presented in APPENDIX III. For comparative purposes these same data from past restoration monitoring are included in the tables. All of the prairie grasses are common across much of the landscape, except for the back slopes (including the vicinity of Transect 2).

Eurasian, cool-season grasses, such as Smooth Brome (*Bromus inermis*) and Kentucky Blue Grass (*Poa pratensis*) remain common across the site; Crown Vetch (*Coronilla varia*) and Bird's Foot Trefoil (*Lotus corniculatus*) are still present in the prairie (especially on the back slopes), but repeated targeted herbicide applications over the past few years have reduced their occurrence. Various other common weeds remain in scattered stands across the landscape as well.

A combined assessment of all 40 quadrats from each year is summarized in Table 7 below. With several years of data, this analysis offers an aggregate performance of the entire site as a whole from year to year.

Table 7. Combined transect data summary

TRANSECT/YR	TRANSECT DATA SUMMARY			AVE QUADRAT DATA SUMMARY		
	NT	MEAN C	FQI	NT	MEAN C	FQI
2001	19	1.6	7	1.8	0.4	0.7
2002*	20	2.1	9	2.5	2.8	4.5
2003	33	2.3	13	3.6	2.6	5.3
2004	31	3.2	18	3.1	3.5	6.0
2005	27	3.5	18	3.0	3.5	6.1
2006	27	3.5	18	3.1	2.8	5.6
2007	33	3.1	18	3.3	3.3	6.2
2008	27	3.5	18	3.0	3.0	5.8
2009	30	3.2	18	3.2	3.5	6.5
2010	35	3.0	18	2.8	2.8	5.0
2011	28	3.5	19	3.0	3.3	6.1

* = First full growing season of the *de novo* prairie landscape.

These data show an average of the quadrat values and, overall, show a positive trend in FQA values over the first ten years of vegetation establishment. These FQA values are likely to remain at or near these levels as long as the current maintenance program is continued.

SEEDED SPECIES RECRUITMENT

An alphabetical list of the 37 native species that were seeded as part of the prairie landscape installation in May and June of 2001 are presented in APPENDIX IV. Each species is listed along with its C value (in parenthesis). If the species was recorded from the site during the 2011 monitoring event it is indicated with a "Y", and if not it is indicated with a "N". The columns to the right summarize the RIV of each species if recorded during the transect sampling.

In summary, 27 of the 37 seeded species were recorded during the monitoring event in September of 2011. For comparative purposes these same data from past restoration monitoring are presented in Table 8 below.

Table 8. Summary of seeded species recruitment

SEEDED SPECIES RECRUITMENT		
YEAR	NO. SPECIES	MEAN C
2001 Seeding	37	5.6
2001	10	4.5
2002*	12	4.8
2003	19	5.3
2004	26	5.3
2005	24	5.4
2006	28	5.5
2007	23	5.0
2008	25	5.0
2009	28	5.3
2010	28	5.3
2011	27	5.3

* = First full growing season of the *de novo* prairie landscape.

Over the past few years, prairie grasses such as Big Bluestem Grass, Indian Grass, etc., have consistently been in the top 50% RIV. This is a positive sign that can be attributed to the seed collection and dispersal efforts, and to the regular prescribed burns.

Future restoration monitoring should be compared to these data in order to show trends in the development of the intended native landscape. In general, after four full growing seasons approximately 40% of the seeded prairie species should be recorded in a site inventory—and if so, then the initial seeding should be considered satisfactory. Based upon the 2011 data, after ten growing seasons, approximately 73% of the seeded species are present across the project site. These percentages are likely to remain at or near these levels (±75%) as long as the current maintenance program is continued.

The native Mean W of the site is summarized in Table 9 below and for comparative purposes these same data from past restoration monitoring are included. These are compared to the Mean W of the 37 seeded species (2001 seeding).

Table 9. Summary of native Mean W

2001 SEEDING	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11
2.5	1.5	1.3	1.4	1.6	1.6	1.3	1.7	1.4	1.3	1.5	1.5

In general, these data indicate that the site is recruiting from more mesic than dry-mesic plant species, and can be used to inform plant selection if and when any future native species enhancement efforts are considered.

SUMMARY

Maintenance activities that were completed across the Blackwell Landfill prairie restoration in 2011 included: prescribed burn; targeted weed control via herbicide applications and plant removal; and miscellaneous woody sapling removal. In the fall, additional targeted weed control was conducted, native prairie grass seed was collected and dispersed across the project site, and fire breaks were mowed in preparation of a spring 2012 prescribed burn.

Overall, the results of the vegetation monitoring data indicate the native landscape restoration has progressed in a positive manner in its first decade of establishment, due in large measure to on-going maintenance that has been performed since the initial seed installation. In time and with continued maintenance, there is reason to believe that prairie grasses and common forbs will be well-dispersed across all portions of the project site. At this point in its maturity, the site itself can be the source of most of the prairie seed used in seed collection and dispersal.

GENERAL REFERENCES

The following documents were reviewed and referenced in the preparation of this report.

Conservation Design Forum. 2002 (January). First Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Conservation Design Forum. 2002 (December). Second-year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Conservation Design Forum. 2003. Third-year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Conservation Design Forum. 2004. Fourth-year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Conservation Design Forum. 2005. Fifth-year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Conservation Design Forum. 2007. Sixth-year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Conservation Design Forum. 2008. Seventh-year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Conservation Design Forum. 2009. Eighth-year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Conservation Design Forum. 2010 (January). Ninth-year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Conservation Design Forum. 2010 (October). Root Penetration Assessment Field Report. Elmhurst, IL.

Conservation Design Forum. 2011. Tenth-year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration. Elmhurst, IL.

Montgomery Watson and Conservation Design Forum. 2000. Phase 1 Restoration Plan for the Revegetation of the Blackwell Landfill. Forest Preserve District of DuPage County, IL.

Montgomery Watson and Conservation Design Forum. 2001. Contractor Bid Package for *Phase 1 Prairie Landscape Installation and Post-planting Maintenance*. Forest Preserve District of DuPage County, IL.

MWH Americas, Inc. 2004. Phase I Prairie Restoration Controlled Burn Activities Summary, Blackwell Forest Preserve. Forest Preserve District of DuPage County, IL.

MWH Americas, Inc. 2005. Phase I Prairie Restoration Controlled Burn Activities Summary (Spring 2005), Blackwell Forest Preserve. Forest Preserve District of DuPage County, IL.

Swink, F. and G. Wilhelm. 1994. Plants of the Chicago Region, 4th edition. Indiana Academy of Science. Indianapolis, Indiana.

Taft, J., G. Wilhelm, D. Ladd, and L. Masters. 1997. Floristic Quality Assessment for Vegetation in Illinois: A Method for Assessing Vegetation Integrity. Erigenia 14, pp. 3-95.

Wilhelm, G. and L. Masters. 1999. Floristic Quality Assessment and Computer Applications. Conservation Research Institute. Elmhurst, IL.

APPENDICES

APPENDIX I

VEGETATION INVENTORY & FLORISTIC QUALITY ASSESSMENT

The following is a summary of the inventory data generated using Wilhelm and Masters' *Floristic Quality Assessment and Computer Applications*, 1999. Plant nomenclature follows Swink and Wilhelm's *Plants of the Chicago Region*, 1994. More information on floristic quality assessment methodology can be found in *Erigenia*, number 15, November, 1997. The plant inventory and assessment is divided into 2 sections as follows.

Section 1 includes three tables that summarize the inventory assessment data. The table to the left is an analysis of the floristic quality of the project area. In addition to listing the number of native species and total number of species, the mean coefficient of conservatism (MEAN C), floristic quality index (FQI), and mean wetness (MEAN W) values are presented. These are calculated once for native species only, and a second time including adventive species (W/Adventives). The two other tables summarize the number and percent of species in each physiognomic group (A=annual, B=biennial, P=perennial, W=woody, H=herbaceous).

Section 2 includes the plant inventory arranged alphabetically, with each species preceded by its database acronym and coefficient of conservatism (C=0 to 10, weedy to conservative); and followed by its wetness coefficient (W=-5 to +5, wet to dry), corresponding national wetland indicator status (OBL=obligate wetland species, FAC=facultative species, UPL=upland species), physiognomic group, and common name. Adventive species are written in ALL CAPS and have an asterisk (*) for their C value.

The Mean C is the average coefficient of conservatism for the site. The FQI is derived by multiplying Mean C by the square root of the number of species present. In general, sites with FQI values less than twenty are degraded or derelict plant communities, or are very small habitat remnants. Sites with FQI values in the twenties through low thirties suffer from various kinds of disturbance, but generally have potential for habitat restoration and recovery. When sites have FQI values in the middle thirties or higher, one can be confident that there is sufficient native character present for the area to be at least regionally noteworthy. Sites with indices in the middle forties and higher are often also statewide significant natural areas.

Site: **Blackwell Landfill Prairie Reconstruction**
Locale: Warrenville, DuPage Co., IL
Date: September 16, 2011
By: Conservation Design Forum (K Johnson)

Section 1

FLORISTIC QUALITY DATA		Native			Adventive		
70	NATIVE SPECIES	Tree	6	5.3%	Tree	4	3.5%
114	Total Species	Shrub	4	3.5%	Shrub	2	1.8%
3.1	NATIVE MEAN C	W-Vine	2	1.8%	W-Vine	0	0.0%
1.9	W/Adventives	H-Vine	0	0.0%	H-Vine	0	0.0%
25.7	NATIVE FQI	P-Forb	39	34.2%	P-Forb	11	9.6%
20.1	W/Adventives	B-Forb	3	2.6%	B-Forb	10	8.8%
1.5	NATIVE MEAN W	A-Forb	6	5.3%	A-Forb	5	4.4%
1.9	W/Adventives	P-Grass	7	6.1%	P-Grass	8	7.0%
AVG:	Fac. Upland (+)	A-Grass	1	0.9%	A-Grass	4	3.5%
		P-Sedge	2	1.8%	P-Sedge	0	0.0%
		A-Sedge	0	0.0%	A-Sedge	0	0.0%
		Cryptogam	0	0.0%			

Section 2

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
ABUTHE	0	ABUTILON THEOPHRASTI	4	FACU-	Ad A-Forb	VELVETLEAF
AGRREP	0	AGROPYRON REPENS	3	FACU	Ad P-Grass	QUACK GRASS
AGRALA	0	AGROSTIS ALBA	-3	FACW	Ad P-Grass	REDTOP
ALLPET	0	ALLIARIA PETIOLATA	0	FAC	Ad B-Forb	GARLIC MUSTARD
ALLVIN	0	ALLIUM VINEALE	3	FACU	Ad P-Forb	FIELD GARLIC
AMBARE	0	Ambrosia artemisiifolia elatior	3	FACU	Nt A-Forb	COMMON RAGWEED
AMBTRI	0	Ambrosia trifida	-1	FAC+	Nt A-Forb	GIANT RAGWEED
ANDGER	5	Andropogon gerardii	1	FAC-	Nt P-Grass	BIG BLUESTEM GRASS
ANDSCO	5	Andropogon scoparius	4	FACU-	Nt P-Grass	LITTLE BLUESTEM GRASS
APOSIB	2	Apocynum sibiricum	-1	FAC+	Nt P-Forb	PRAIRIE INDIAN HEMP
ASCSYR	0	Asclepias syriaca	5	UPL	Nt P-Forb	COMMON MILKWEED
ASCVER	1	Asclepias verticillata	5	UPL	Nt P-Forb	WHORLED MILKWEED
ASTERI	5	Aster ericoides	4	FACU-	Nt P-Forb	HEATH ASTER
ASTNOV	4	Aster novae-angliae	-3	FACW	Nt P-Forb	NEW ENGLAND ASTER
ASTPIL	0	Aster pilosus	2	FACU+	Nt P-Forb	HAIRY ASTER
ASTSAD	2	Aster sagittifolius drummondii	3	[FACU]	Nt P-Forb	DRUMMOND'S ASTER
BAPLEA	8	Baptisia leucantha	2	FACU+	Nt P-Forb	WHITE WILD INDIGO
BARVUL	0	BARBAREA VULGARIS	0	FAC	Ad B-Forb	YELLOW ROCKET
BOUCUR	8	Bouteloua curtipendula	5	UPL	Nt P-Grass	SIDE-OATS GRAMA
BRANIG	0	BRASSICA NIGRA	5	UPL	Ad A-Forb	BLACK MUSTARD
BROINE	0	BROMUS INERMIS	5	UPL	Ad P-Grass	HUNGARIAN BROME
CHEALB	0	CHENOPODIUM ALBUM	1	FAC-	Ad A-Forb	LAMB'S QUARTERS
CIRARV	0	CIRSIUM ARVENSE	5	UPL	Ad P-Forb	FIELD THISTLE
CIRVUL	0	CIRSIUM VULGARE	4	FACU-	Ad B-Forb	BULL THISTLE
CONARV	0	CONVOLVULUS ARVENSIS	5	UPL	Ad P-Forb	FIELD BINDWEED
CONSEP	1	Convolvulus sepium	0	FAC	Nt P-Forb	HEDGE BINDWEED
CORTRP	5	Coreopsis tripteris	0	FAC	Nt P-Forb	TALL COREOPSIS
CORRAC	1	Cornus racemosa	-2	FACW-	Nt Shrub	GRAY DOGWOOD
CORVAR	0	CORONILLA VARIA	5	UPL	Ad P-Forb	CROWN VETCH
CYPESC	0	Cyperus esculentus	-1	[FAC+]	Nt P-Sedge	FIELD NUT SEDGE
DACGLO	0	DACTYLIS GLOMERATA	3	FACU	Ad P-Grass	ORCHARD GRASS
DAUCAR	0	DAUCUS CAROTA	5	UPL	Ad B-Forb	QUEEN ANNE'S LACE
DESILS	3	Desmanthus illinoensis	5	UPL	Nt P-Forb	ILLINOIS SENSITIVE PLANT
DESCAA	4	Desmodium canadense	1	FAC-	Nt P-Forb	SHOWY TICK TREFOIL
DIPLAC	0	DIPSACUS LACINIATUS	5	UPL	Ad B-Forb	CUT-LEAVED TEASEL
ECHPUR	3	Echinacea purpurea	5	UPL	Nt P-Forb	BROAD-LEAVED PURPLE CONEFLOWER
ECHCRU	0	Echinochloa crusgalli	-3	FACW	Nt A-Grass	BARNYARD GRASS
ELAUMB	0	ELAEAGNUS UMBELLATA	5	UPL	Ad Shrub	AUTUMN OLIVE
ELYCAN	4	Elymus canadensis	1	FAC-	Nt P-Grass	CANADA WILD RYE
ERASPE	3	Eragrostis spectabilis	5	UPL	Nt P-Grass	PURPLE LOVE GRASS
ERIANS	0	Erigeron annuus	1	FAC-	Nt B-Forb	ANNUAL FLEABANE
ERIVIL	0	ERIOCHLOA VILLOSA	5	UPL	Ad A-Grass	CHINESE CUP GRASS
ERYYUC	9	Eryngium yuccifolium	-1	FAC+	Nt P-Forb	RATTLESNAKE MASTER

EUPALT	0	Eupatorium altissimum	3	[FACU]	Nt	P-Forb	TALL BONESET
EUPSEM	0	Eupatorium serotinum	-1	FAC+	Nt	P-Forb	LATE BONESET
FESELA	0	FESTUCA ELATIOR	2	FACU+	Ad	P-Grass	TALL FESCUE
FRAPES	1	Fraxinus pennsylvanica subintegerrima	0	FAC	Nt	Tree	GREEN ASH
GLETRI	2	Gleditsia triacanthos	0	FAC	Nt	Tree	HONEY LOCUST
HELMOL	9	Helianthus mollis	5	UPL	Nt	P-Forb	DOWNY SUNFLOWER
HELSTR	5	Helianthus strumosus	5	UPL	Nt	P-Forb	PALE-LEAVED SUNFLOWER
HELHEL	5	Heliopsis helianthoides	5	UPL	Nt	P-Forb	FALSE SUNFLOWER
HIBTRI	0	HIBISCUS TRIONUM	5	UPL	Ad	A-Forb	FLOWER-OF-AN-HOUR
JUNDUD	4	Juncus dudleyi	0	[FAC]	Nt	P-Forb	DUDLEY'S RUSH
JUNTOR	4	Juncus torreyi	-3	FACW	Nt	P-Forb	TORREY'S RUSH
JUNVIC	2	Juniperus virginiana crebra	3	FACU	Nt	Tree	RED CEDAR
LACCAN	2	Lactuca canadensis	2	FACU+	Nt	B-Forb	WILD LETTUCE
LACSER	0	LACTUCA SERRIOLA	0	FAC	Ad	B-Forb	PRICKLY LETTUCE
LEPCAM	0	LEPIDIUM CAMPESTRE	5	UPL	Ad	B-Forb	FIELD CRESS
LEPVIR	0	Lepidium virginicum	4	FACU-	Nt	A-Forb	COMMON PEPPERCRESS
LESCAP	4	Lespedeza capitata	3	FACU	Nt	P-Forb	ROUND-HEADED BUSH CLOVER
LOTCOR	0	LOTUS CORNICULATUS	1	FAC-	Ad	P-Forb	BIRD'S FOOT TREFOIL
MEDLUP	0	MEDICAGO LUPULINA	1	FAC-	Ad	A-Forb	BLACK MEDICK
MEDSAT	0	MEDICAGO SATIVA	5	UPL	Ad	P-Forb	ALFALFA
MELALB	0	MELILOTUS ALBA	3	FACU	Ad	B-Forb	WHITE SWEET CLOVER
MELLOF	0	MELILOTUS OFFICINALIS	3	FACU	Ad	B-Forb	YELLOW SWEET CLOVER
MONFIS	4	Monarda fistulosa	3	FACU	Nt	P-Forb	WILD BERGAMOT
MORALB	0	MORUS ALBA	0	FAC	Ad	Tree	WHITE MULBERRY
NEPCAT	0	NEPETA CATARIA	1	FAC-	Ad	P-Forb	CATNIP
OENBIE	0	Oenothera biennis	3	FACU	Nt	B-Forb	COMMON EVENING PRIMROSE
PANVIR	5	Panicum virgatum	-1	FAC+	Nt	P-Grass	SWITCH GRASS
PARINT	8	Parthenium integrifolium	5	UPL	Nt	P-Forb	WILD QUININE
PENDIG	4	Penstemon digitalis	1	FAC-	Nt	P-Forb	FOXGLOVE BEARD TONGUE
PETPUR	9	Petalostemum purpureum	5	UPL	Nt	P-Forb	PURPLE PRAIRIE CLOVER
PHAARU	0	PHALARIS ARUNDINACEA	-4	FACW+	Ad	P-Grass	REED CANARY GRASS
PHLPRA	0	PHLEUM PRATENSE	3	FACU	Ad	P-Grass	TIMOTHY
PHYSUB	0	Physalis subglabrata	5	UPL	Nt	P-Forb	TALL GROUND CHERRY
PHYAME	1	Phytolacca americana	1	FAC-	Nt	P-Forb	POKEWEED
PLARUG	0	Plantago rugelii	0	FAC	Nt	A-Forb	RED-STALKED PLANTAIN
POAPRA	0	POA PRATENSIS	1	FAC-	Ad	P-Grass	KENTUCKY BLUE GRASS
POLCOC	4	Polygonum coccineum	-5	OBL	Nt	P-Forb	WATER HEARTSEASE
POLPEN	0	Polygonum pensylvanicum	-4	FACW+	Nt	A-Forb	PINKWEED
POPALB	0	POPULUS ALBA	5	UPL	Ad	Tree	WHITE POPLAR
POPDEL	2	Populus deltoides	-1	FAC+	Nt	Tree	EASTERN COTTONWOOD
PYCVIR	5	Pycnanthemum virginianum	-4	FACW+	Nt	P-Forb	COMMON MOUNTAIN MINT
QUERUB	7	Quercus rubra	3	FACU	Nt	Tree	RED OAK
QUEVEL	6	Quercus velutina	5	UPL	Nt	Tree	BLACK OAK
RATPIN	4	Ratibida pinnata	5	UPL	Nt	P-Forb	YELLOW CONEFLOWER
RHACAT	0	RHAMNUS CATHARTICA	3	FACU	Ad	Shrub	COMMON BUCKTHORN
RHUGLA	1	Rhus glabra	5	UPL	Nt	Shrub	SMOOTH SUMAC
RHURAD	2	Rhus radicans	-1	FAC+	Nt	W-Vine	POISON IVY
RUBOCC	2	Rubus occidentalis	5	UPL	Nt	Shrub	BLACK RASPBERRY
RUDHIR	1	Rudbeckia hirta	3	FACU	Nt	P-Forb	BLACK-EYED SUSAN
RUMCRI	0	RUMEX CRISPUS	-1	FAC+	Ad	P-Forb	CURLY DOCK
SALFRA	0	SALIX FRAGILIS	-1	FAC+	Ad	Tree	CRACK WILLOW
SALINT	1	Salix interior	-5	OBL	Nt	Shrub	SANDBAR WILLOW
SCIATR	4	Scirpus atrovirens	-5	OBL	Nt	P-Sedge	DARK GREEN RUSH
SETFAB	0	SETARIA FABERI	2	FACU+	Ad	A-Grass	GIANT FOXTAIL
SETGLA	0	SETARIA GLAUCA	0	FAC	Ad	A-Grass	YELLOW FOXTAIL
SETVIV	0	SETARIA VIRIDIS	1	[FAC-]	Ad	A-Grass	GREEN FOXTAIL
SILINI	5	Silphium integrifolium	5	UPL	Nt	P-Forb	ROSIN WEED
SILLAC	5	Silphium laciniatum	5	UPL	Nt	P-Forb	COMPASS PLANT
SILTER	5	Silphium terebinthinaceum	3	FACU	Nt	P-Forb	PRAIRIE DOCK
SOLAME	0	Solanum americanum	4	FACU-	Nt	A-Forb	BLACK NIGHTSHADE
SOLCAR	0	SOLANUM CAROLINENSE	4	FACU-	Ad	P-Forb	HORSE NETTLE
SOLALT	1	Solidago altissima	3	FACU	Nt	P-Forb	TALL GOLDENROD
SOLGIG	4	Solidago gigantea	-3	FACW	Nt	P-Forb	LATE GOLDENROD
SOLRIG	4	Solidago rigida	4	FACU-	Nt	P-Forb	STIFF GOLDENROD
SORNUT	5	Sorghastrum nutans	2	FACU+	Nt	P-Grass	INDIAN GRASS
TEUCAN	3	Teucrium canadense	-3	FACW	Nt	P-Forb	GERMANDER
TRIHYB	0	TRIFOLIUM HYBRIDUM	1	FAC-	Ad	P-Forb	ALSIKE CLOVER
TRIPRA	0	TRIFOLIUM PRATENSE	5	UPL	Ad	P-Forb	RED CLOVER
ULMPUM	0	ULMUS PUMILA	5	UPL	Ad	Tree	SIBERIAN ELM
VERTHA	0	VERBASCUM THAPSUS	5	UPL	Ad	B-Forb	COMMON MULLEIN
VITRIP	2	Vitis riparia	-2	FACW-	Nt	W-Vine	RIVERBANK GRAPE

APPENDIX II

TRANSECT SAMPLING & FLORISTIC QUALITY ASSESSMENT

The following is a summary of the transect data generated using Wilhelm and Masters' *Floristic Quality Assessment and Computer Applications*; 1999. Plant nomenclature follows Swink and Wilhelm's *Plants of the Chicago Region*, 1994. More information on floristic quality assessment methodology can be found in *Erigenia*, number 15, November, 1997. The results of each transect are presented in four sections as described below.

Section 1 is a summary of the quadrat data for the transect. The data listed for each quadrat includes the mean coefficient of conservatism (MC), floristic quality index (FQI), and mean wetness (MW). These values are calculated once for native species only, and a second time including adventive species (W/Ad). Also presented for each quadrat are the number of native species (NS), and number of total species (TS). Shown below each of these columns are their values averaged per quadrat (AVG), and standard deviation (STD). The columns to the far right are sequential averages of the wetness coefficients ([(x+n+y)/3]), data that can be useful in the evaluation of plants along a slope or topographical catena.

Section 2 is a summary these same values for the entire transect. First, there is a tabulation of the species in each conservatism category (0 to 10) and the percentage of species in three conservatism classes (0 to 3, 4 to 6, 7 to 10). The two columns below summarize the number and percent of species in each physiognomic group (A=annual, B=biennial, P=perennial, W=woody, H= herbaceous). Next, there is a summary of the relative importance values (RIV) of each physiognomic group; these values are calculated by summing the frequency (FRQ) and the cover class (COV) of each group found in the transect then dividing by two.

Section 3 is a table that lists the relative importance values for each species found in the transect sampling. Each species RIV is calculated by summing its relative frequency and its relative cover, then dividing by two. Each scientific name is followed by its coefficient of conservatism and wetland indicator status.

Section 4 is the transect inventory arranged alphabetically to scientific name. This is followed by a list of the quadrats along the transect string that includes the cover class value determined for each species recorded in the quadrat.

Site: Blackwell Prairie
Locale: **Transect 1**
Date: September 16, 2011
By: Conservation Design Forum (K Johnson)

Section 1

TRANSECT DATA, QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS	MW SEQ	W/Ad
1	0.0	0.0	0.0	0.0	0.0	2.3	0	3	1.5	2.7
2	4.0	1.0	4.0	2.0	3.0	3.0	1	4	1.8	2.7
3	3.6	3.0	8.0	7.3	2.4	2.8	5	6	3.3	2.9
4	6.5	2.6	9.2	5.8	4.5	2.8	2	5	3.0	2.5
5	3.7	2.2	6.4	4.9	2.0	1.8	3	5	3.2	2.4
6	4.3	2.4	8.5	6.4	3.3	2.7	4	7	2.8	2.6
7	5.3	3.0	10.5	7.9	3.3	3.3	4	7	3.5	3.3
8	5.7	3.4	9.8	7.6	4.0	4.0	3	5	3.6	3.8
9	4.3	1.9	7.5	4.9	3.7	4.0	3	7	3.6	3.7
10	4.5	1.8	6.4	4.0	3.0	3.2	2	5	3.3	3.6
AVG	4.2	2.1	7.0	5.1	2.9	3.0	2.7	5.4		
STD	1.7	1.0	3.1	2.5	1.3	0.7	1.5	1.3		

Section 2

C	NUMBER	
0	2	
1	1	
2	0	0 to 3
3	0	27.3%
4	3	
5	4	
6	0	4 to 7
7	0	63.6%
8	1	
9	0	8 to 10
10	0	9.1%

11	NATIVE SPECIES
21	TOTAL SPECIES
3.7	NATIVE MEAN C
2.0	W/Adventives
12.4	NATIVE FQI
8.9	W/Adventives
3.0	NATIVE MEAN W
3.1	W/Adventives

Native	11	52.4%	Adventive	10	47.6%
Tree	0	0.0%	Tree	0	0.0%
Shrub	0	0.0%	Shrub	0	0.0%
W-Vine	0	0.0%	W-Vine	0	0.0%
H-Vine	0	0.0%	H-Vine	0	0.0%
P-Forb	6	28.6%	P-Forb	3	14.3%
B-Forb	0	0.0%	B-Forb	2	9.5%
A-Forb	0	0.0%	A-Forb	0	0.0%
P-Grass	5	23.8%	P-Grass	5	23.8%
A-Grass	0	0.0%	A-Grass	0	0.0%
P-Sedge	0	0.0%	P-Sedge	0	0.0%
A-Sedge	0	0.0%	A-Sedge	0	0.0%
Cryptogam	0	0.0%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOGNOMY	FRQ	COV	RFRQ	RCOV	RIV
Nt P-Grass	16	41	29.6	37.3	33.5
Ad P-Grass	15	34	27.8	30.9	29.3
Nt P-Forb	11	20	20.4	18.2	19.3
Ad P-Forb	9	11	16.7	10.0	13.3
Ad B-Forb	3	4	5.6	3.6	4.6

Section 3

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Bouteloua curtipendula	8	UPL	5	14	9.3	12.7	11.0
Andropogon scoparius	5	FACU-	4	14	7.4	12.7	10.1
FESTUCA ELATIOR	0	FACU+	5	12	9.3	10.9	10.1
POA PRATENSIS	0	FAC-	4	11	7.4	10.0	8.7
CIRSIUM ARVENSE	0	UPL	5	7	9.3	6.4	7.8
Elymus canadensis	4	FAC-	4	7	7.4	6.4	6.9
Heliopsis helianthoides	5	UPL	3	9	5.6	8.2	6.9
DACTYLIS GLOMERATA	0	FACU	4	6	7.4	5.5	6.4
Monarda fistulosa	4	FACU	3	4	5.6	3.6	4.6
LOTUS CORNICULATUS	0	FAC-	3	3	5.6	2.7	4.1
DAUCUS CAROTA	0	UPL	2	3	3.7	2.7	3.2
Panicum virgatum	5	FAC+	2	3	3.7	2.7	3.2
Aster pilosus	0	FACU+	2	2	3.7	1.8	2.8
AGROPYRON REPENS	0	FACU	1	3	1.9	2.7	2.3
Andropogon gerardii	5	FAC-	1	3	1.9	2.7	2.3
BROMUS INERMIS	0	UPL	1	2	1.9	1.8	1.8
Ratibida pinnata	4	UPL	1	2	1.9	1.8	1.8
Solidago altissima	1	FACU	1	2	1.9	1.8	1.8
CONVOLVULUS ARVENSIS	0	UPL	1	1	1.9	0.9	1.4
MELILOTUS ALBA	0	FACU	1	1	1.9	0.9	1.4
Physalis subglabrata	0	UPL	1	1	1.9	0.9	1.4
			54	110			

Section 4

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
AGRREP	0	AGROPYRON REPENS	3	FACU	Ad P-Grass	QUACK GRASS
ANDGER	5	Andropogon gerardii	1	FAC-	Nt P-Grass	BIG BLUESTEM GRASS
ANDSCO	5	Andropogon scoparius	4	FACU-	Nt P-Grass	LITTLE BLUESTEM GRASS
ASTPIL	0	Aster pilosus	2	FACU+	Nt P-Forb	HAIRY ASTER
BOUCUR	8	Bouteloua curtipendula	5	UPL	Nt P-Grass	SIDE-OATS GRAMA
BROINE	0	BROMUS INERMIS	5	UPL	Ad P-Grass	HUNGARIAN BROME
CIRARV	0	CIRSIUM ARVENSE	5	UPL	Ad P-Forb	FIELD THISTLE
CONARV	0	CONVOLVULUS ARVENSIS	5	UPL	Ad P-Forb	FIELD BINDWEED
DACGLO	0	DACTYLIS GLOMERATA	3	FACU	Ad P-Grass	ORCHARD GRASS
DAUCAR	0	DAUCUS CAROTA	5	UPL	Ad B-Forb	QUEEN ANNE'S LACE
ELYCAN	4	Elymus canadensis	1	FAC-	Nt P-Grass	CANADA WILD RYE
FESELA	0	FESTUCA ELATIOR	2	FACU+	Ad P-Grass	TALL FESCUE
HELHEL	5	Heliopsis helianthoides	5	UPL	Nt P-Forb	FALSE SUNFLOWER
LOTCOR	0	LOTUS CORNICULATUS	1	FAC-	Ad P-Forb	BIRD'S FOOT TREFOIL
MELALB	0	MELILOTUS ALBA	3	FACU	Ad B-Forb	WHITE SWEET CLOVER
MONFIS	4	Monarda fistulosa	3	FACU	Nt P-Forb	WILD BERGAMOT
PANVIR	5	Panicum virgatum	-1	FAC+	Nt P-Grass	SWITCH GRASS
PHYSUB	0	Physalis subglabrata	5	UPL	Nt P-Forb	TALL GROUND CHERRY
POAPRA	0	POA PRATENSIS	1	FAC-	Ad P-Grass	KENTUCKY BLUE GRASS
RATPIN	4	Ratibida pinnata	5	UPL	Nt P-Forb	YELLOW CONEFLOWER
SOLALT	1	Solidago altissima	3	FACU	Nt P-Forb	TALL GOLDENROD

TRANSECT STRING

>

QUAD	1
ACRONYM	COVER
CIRARV	3
LOTCOR	1
POAPRA	4

>

QUAD	2
ACRONYM	COVER
AGRREP	3
CIRARV	1
MONFIS	2
POAPRA	3

>

QUAD	3
ACRONYM	COVER
ANDGER	3
ASTPIL	1
BOUCUR	3
BROINE	2
PANVIR	2
PHYSUB	1

>

QUAD	4
ACRONYM	COVER
ANDSCO	3
BOUCUR	4
DACGLO	2
LOTCOR	1
POAPRA	2

>

QUAD	5
ACRONYM	COVER
ANDSCO	3
FESELA	3
PANVIR	1
POAPRA	2
SOLALT	2

>

QUAD	6
ACRONYM	COVER
ASTPIL	1
BOUCUR	2
ELYCAN	1
FESELA	3
HELHEL	2
LOTCOR	1
MELALB	1

>

QUAD	7
ACRONYM	COVER
ANDSCO	4
BOUCUR	1
CIRARV	1
DACGLO	1
ELYCAN	2
FESELA	2
MONFIS	1

>

QUAD	8
ACRONYM	COVER
ANDSCO	4
BOUCUR	4
CIRARV	1
DACGLO	1
MONFIS	1

>

QUAD	9
ACRONYM	COVER
CIRARV	1
CONARV	1
DAUCAR	1
ELYCAN	1
FESELA	1
HELHEL	5
RATPIN	2

>

QUAD	10
ACRONYM	COVER
DACGLO	2
DAUCAR	2
ELYCAN	3
FESELA	3
HELHEL	2

Site: Blackwell Prairie
Locale: **Transect 2**
Date: September 16, 2011
By: Conservation Design Forum (K Johnson)

Section 1

TRANSECT DATA, QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS	MW SEQ	W/Ad
1	2.5	1.0	3.5	2.2	3.0	3.0	2	5	3.0	3.3
2	1.0	0.2	1.0	0.4	3.0	3.6	1	5	3.0	3.3
3	1.0	0.3	1.0	0.5	3.0	3.3	1	4	3.3	3.2
4	2.5	0.8	3.5	2.0	4.0	2.8	2	6	3.3	3.2
5	1.0	0.2	1.0	0.4	3.0	3.5	1	6	2.3	3.6
6	0.0	0.0	0.0	0.0	0.0	4.5	0	4	2.0	3.7
7	1.0	0.3	1.0	0.5	3.0	3.0	1	4	2.0	4.0
8	1.0	0.3	1.0	0.5	3.0	4.5	1	4	2.0	3.6
9	0.0	0.0	0.0	0.0	0.0	3.3	0	3	1.0	4.1
10	0.0	0.0	0.0	0.0	0.0	4.3	0	3	0.0	3.8
AVG	1.0	0.3	1.2	0.7	2.2	3.6	0.9	4.4		
STD	0.9	0.3	1.3	0.8	1.5	0.6	0.7	1.1		

Section 2

C	NUMBER	
0	0	
1	1	
2	0	0 to 3
3	0	33.3%
4	2	
5	0	
6	0	4 to 7
7	0	66.7%
8	0	
9	0	8 to 10
10	0	0.0%

3	NATIVE SPECIES
15	TOTAL SPECIES
3.0	NATIVE MEAN C
0.6	W/Adventives
5.2	NATIVE FQI
2.3	W/Adventives
3.7	NATIVE MEAN W
2.9	W/Adventives

Native	3	20.0%	Adventive	12	80.0%
Tree	0	0.0%	Tree	1	6.7%
Shrub	0	0.0%	Shrub	1	6.7%
W-Vine	0	0.0%	W-Vine	0	0.0%
H-Vine	0	0.0%	H-Vine	0	0.0%
P-Forb	3	20.0%	P-Forb	5	33.3%
B-Forb	0	0.0%	B-Forb	2	13.3%
A-Forb	0	0.0%	A-Forb	0	0.0%
P-Grass	0	0.0%	P-Grass	3	20.0%
A-Grass	0	0.0%	A-Grass	0	0.0%
P-Sedge	0	0.0%	P-Sedge	0	0.0%
A-Sedge	0	0.0%	A-Sedge	0	0.0%
Cryptogam	0	0.0%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOGNOMY	FRQ	COV	RFRQ	RCOV	RIV
Ad P-Grass	11	40	25.0	40.0	32.5
Ad P-Forb	17	22	38.6	22.0	30.3
Nt P-Forb	9	27	20.5	27.0	23.7
Ad B-Forb	3	5	6.8	5.0	5.9
Ad Shrub	3	5	6.8	5.0	5.9
Ad Tree	1	1	2.3	1.0	1.6

Section 3

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
BROMUS INERMIS	0	UPL	7	32	15.9	32.0	24.0
Solidago altissima	1	FACU	7	25	15.9	25.0	20.5
CIRSIUM ARVENSE	0	UPL	7	7	15.9	7.0	11.5
CORONILLA VARIA	0	UPL	5	10	11.4	10.0	10.7
AGROPYRON REPENS	0	FACU	3	7	6.8	7.0	6.9
RHAMNUS CATHARTICA	0	FACU	3	5	6.8	5.0	5.9
NEPETA CATARIA	0	FAC-	3	3	6.8	3.0	4.9
ALLIARIA PETIOLATA	0	FAC	2	4	4.5	4.0	4.3
CONVOLVULUS ARVENSIS	0	UPL	1	1	2.3	1.0	1.6
LACTUCA SERRIOLA	0	FAC	1	1	2.3	1.0	1.6
Monarda fistulosa	4	FACU	1	1	2.3	1.0	1.6
MORUS ALBA	0	FAC	1	1	2.3	1.0	1.6
POA PRATENSIS	0	FAC-	1	1	2.3	1.0	1.6
Ratibida pinnata	4	UPL	1	1	2.3	1.0	1.6
SOLANUM CAROLINENSE	0	FACU-	1	1	2.3	1.0	1.6
			44	100			

Section 4

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
AGRREP	0	AGROPYRON REPENS	3	FACU	Ad P-Grass	QUACK GRASS
ALLPET	0	ALLIARIA PETIOLATA	0	FAC	Ad B-Forb	GARLIC MUSTARD
BROINE	0	BROMUS INERMIS	5	UPL	Ad P-Grass	HUNGARIAN BROME
CIRARV	0	CIRSIUM ARVENSE	5	UPL	Ad P-Forb	FIELD THISTLE
CONARV	0	CONVOLVULUS ARVENSIS	5	UPL	Ad P-Forb	FIELD BINDWEED
CORVAR	0	CORONILLA VARIA	5	UPL	Ad P-Forb	CROWN VETCH
LACSER	0	LACTUCA SERRIOLA	0	FAC	Ad B-Forb	PRICKLY LETTUCE
MONFIS	4	Monarda fistulosa	3	FACU	Nt P-Forb	WILD BERGAMOT
MORALB	0	MORUS ALBA	0	FAC	Ad Tree	WHITE MULBERRY
NEPCAT	0	NEPETA CATARIA	1	FAC-	Ad P-Forb	CATNIP
POAPRA	0	POA PRATENSIS	1	FAC-	Ad P-Grass	KENTUCKY BLUE GRASS
RATPIN	4	Ratibida pinnata	5	UPL	Nt P-Forb	YELLOW CONEFLOWER
RHACAT	0	RHAMNUS CATHARTICA	3	FACU	Ad Shrub	COMMON BUCKTHORN
SOLCAR	0	SOLANUM CAROLINENSE	4	FACU-	Ad P-Forb	HORSE NETTLE
SOLALT	1	Solidago altissima	3	FACU	Nt P-Forb	TALL GOLDENROD

TRANSECT STRING

>

QUAD	1
ACRONYM	COVER
CORVAR	4
MONFIS	1
POAPRA	1
RHACAT	2
SOLALT	4

>

QUAD	2
ACRONYM	COVER
BROINE	4
CORVAR	1
NEPCAT	1
SOLALT	3
SOLCAR	1

>

QUAD	3
ACRONYM	COVER
ALLPET	3
BROINE	4
CIRARV	1
SOLALT	4

>

QUAD	4
ACRONYM	COVER
AGRREP	2
CIRARV	1
LACSER	1
NEPCAT	1
RATPIN	1
SOLALT	4

>

QUAD	5
ACRONYM	COVER
BROINE	4
CIRARV	1
CORVAR	1
MORALB	1
RHACAT	2
SOLALT	4

>

QUAD	6
ACRONYM	COVER
BROINE	5
CIRARV	1
CORVAR	2
RHACAT	1

>

QUAD	7
ACRONYM	COVER
AGRREP	3
CIRARV	1
NEPCAT	1
SOLALT	5

>

QUAD	8
ACRONYM	COVER
BROINE	5
CIRARV	1
CONARV	1
SOLALT	1

>

QUAD	9
ACRONYM	COVER
ALLPET	1
BROINE	5
CIRARV	1

>

QUAD	10
ACRONYM	COVER
AGRREP	2
BROINE	5
CORVAR	2

Site: Blackwell Prairie
Locale: **Transect 3**
Date: September 16, 2011
By: Conservation Design Forum (K Johnson)

Section 1

TRANSECT DATA, QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS	MW SEQ	W/Ad
1	3.0	1.5	5.2	3.7	-1.3	0.8	3	6	-0.7	0.7
2	3.8	3.0	7.5	6.7	0.0	0.6	4	5	0.0	0.9
3	4.0	3.4	9.8	9.1	1.3	1.1	6	7	0.7	0.9
4	4.0	3.3	8.9	8.2	0.8	1.0	5	6	1.6	1.4
5	4.0	2.9	8.9	7.6	2.6	2.0	5	7	1.9	1.6
6	4.0	3.2	8.0	7.2	2.3	1.8	4	5	2.2	1.9
7	4.7	4.0	11.4	10.6	1.7	1.9	6	7	2.4	2.2
8	4.5	3.0	9.0	7.3	3.3	3.0	4	6	1.3	2.1
9	4.0	1.6	5.7	3.6	-1.0	1.4	2	5	1.7	2.3
10	2.5	0.7	3.5	1.9	3.0	2.6	2	7	1.0	2.0
AVG	3.8	2.7	7.8	6.6	1.3	1.6	4.1	6.1		
STD	0.6	1.0	2.4	2.7	1.6	0.8	1.4	0.9		

Section 2

C	NUMBER	
0	2	
1	2	
2	0	0 to 3
3	1	27.8%
4	5	
5	6	
6	0	4 to 7
7	0	61.1%
8	1	
9	1	8 to 10
10	0	11.1%

18	NATIVE SPECIES
27	TOTAL SPECIES
4.0	NATIVE MEAN C
2.7	W/Adventives
17.0	NATIVE FQI
13.9	W/Adventives
1.7	NATIVE MEAN W
2.1	W/Adventives

Native	18	66.7%	Adventive	9	33.3%
Tree	0	0.0%	Tree	0	0.0%
Shrub	0	0.0%	Shrub	0	0.0%
W-Vine	0	0.0%	W-Vine	0	0.0%
H-Vine	0	0.0%	H-Vine	0	0.0%
P-Forb	11	40.7%	P-Forb	3	11.1%
B-Forb	1	3.7%	B-Forb	1	3.7%
A-Forb	1	3.7%	A-Forb	0	0.0%
P-Grass	5	18.5%	P-Grass	2	7.4%
A-Grass	0	0.0%	A-Grass	3	11.1%
P-Sedge	0	0.0%	P-Sedge	0	0.0%
A-Sedge	0	0.0%	A-Sedge	0	0.0%
Cryptogam	0	0.0%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOGNOMY	FRQ	COV	RFRQ	RCOV	RIV
Nt P-Forb	24	41	39.3	32.8	36.1
Nt P-Grass	15	47	24.6	37.6	31.1
Ad P-Grass	7	16	11.5	12.8	12.1
Ad A-Grass	8	13	13.1	10.4	11.8
Ad P-Forb	4	4	6.6	3.2	4.9
Ad B-Forb	1	2	1.6	1.6	1.6
Nt B-Forb	1	1	1.6	0.8	1.2
Nt A-Forb	1	1	1.6	0.8	1.2

Section 3

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Panicum virgatum	5	FAC+	6	21	9.8	16.8	13.3
Andropogon gerardii	5	FAC-	6	20	9.8	16.0	12.9
Solidago altissima	1	FACU	6	12	9.8	9.6	9.7
AGROPYRON REPENS	0	FACU	4	11	6.6	8.8	7.7
SETARIA GLAUCA	0	FAC	5	8	8.2	6.4	7.3
Aster ericoides	5	FACU-	4	5	6.6	4.0	5.3
Aster novae-angliae	4	FACW	4	5	6.6	4.0	5.3
POA PRATENSIS	0	FAC-	3	5	4.9	4.0	4.5
Monarda fistulosa	4	FACU	2	4	3.3	3.2	3.2
SETARIA FABERI	0	FACU+	2	4	3.3	3.2	3.2
Silphium integrifolium	5	UPL	2	4	3.3	3.2	3.2
CORONILLA VARIA	0	UPL	2	2	3.3	1.6	2.4
Helianthus mollis	9	UPL	1	4	1.6	3.2	2.4
Bouteloua curtipendula	8	UPL	1	3	1.6	2.4	2.0
Andropogon scoparius	5	FACU-	1	2	1.6	1.6	1.6
DAUCUS CAROTA	0	UPL	1	2	1.6	1.6	1.6
Polygonum coccineum	4	OBL	1	2	1.6	1.6	1.6
Solidago rigida	4	FACU-	1	2	1.6	1.6	1.6
Ambrosia artemisiifolia elatior	0	FACU	1	1	1.6	0.8	1.2
Convolvulus sepium	1	FAC	1	1	1.6	0.8	1.2
ERIOCHLOA VILLOSA	0	UPL	1	1	1.6	0.8	1.2
NEPETA CATARIA	0	FAC-	1	1	1.6	0.8	1.2
Oenothera biennis	0	FACU	1	1	1.6	0.8	1.2
Penstemon digitalis	4	FAC-	1	1	1.6	0.8	1.2
SOLANUM CAROLINENSE	0	FACU-	1	1	1.6	0.8	1.2
Sorghastrum nutans	5	FACU+	1	1	1.6	0.8	1.2
Teucrium canadense	3	FACW	1	1	1.6	0.8	1.2
			61	125			

Section 4

ACRONYM	C	SCIENTIFIC NAME
AGRREP	0	AGROPYRON REPENS
AMBARE	0	Ambrosia artemisiifolia elatior
ANDGER	5	Andropogon gerardii
ANDSCO	5	Andropogon scoparius
ASTERI	5	Aster ericoides
ASTNOV	4	Aster novae-angliae
BOUCUR	8	Bouteloua curtipendula
CONSEP	1	Convolvulus sepium
CORVAR	0	CORONILLA VARIA
DAUCAR	0	DAUCUS CAROTA
ERIVIL	0	ERIOCHLOA VILLOSA
HELMOL	9	Helianthus mollis
MONFIS	4	Monarda fistulosa
NEPCAT	0	NEPETA CATARIA
OENBIE	0	Oenothera biennis

W	WETNESS	PHYSIOGNOMY	COMMON NAME
3	FACU	Ad P-Grass	QUACK GRASS
3	FACU	Nt A-Forb	COMMON RAGWEED
1	FAC-	Nt P-Grass	BIG BLUESTEM GRASS
4	FACU-	Nt P-Grass	LITTLE BLUESTEM GRASS
4	FACU-	Nt P-Forb	HEATH ASTER
-3	FACW	Nt P-Forb	NEW ENGLAND ASTER
5	UPL	Nt P-Grass	SIDE-OATS GRAMA
0	FAC	Nt P-Forb	HEDGE BINDWEED
5	UPL	Ad P-Forb	CROWN VETCH
5	UPL	Ad B-Forb	QUEEN ANNE'S LACE
5	UPL	Ad A-Grass	CHINESE CUP GRASS
5	UPL	Nt P-Forb	DOWNY SUNFLOWER
3	FACU	Nt P-Forb	WILD BERGAMOT
1	FAC-	Ad P-Forb	CATNIP
3	FACU	Nt B-Forb	COMMON EVENING PRIMROSE

PANVIR	5	Panicum virgatum	-1	FAC+	Nt P-Grass	SWITCH GRASS
PENDIG	4	Penstemon digitalis	1	FAC-	Nt P-Forb	FOXGLOVE BEARD TONGUE
POAPRA	0	POA PRATENSIS	1	FAC-	Ad P-Grass	KENTUCKY BLUE GRASS
POLCOC	4	Polygonum coccineum	-5	OBL	Nt P-Forb	WATER HEARTSEASE
SETFAB	0	SETARIA FABERI	2	FACU+	Ad A-Grass	GIANT FOXTAIL
SETGLA	0	SETARIA GLAUCA	0	FAC	Ad A-Grass	YELLOW FOXTAIL
SILINI	5	Silphium integrifolium	5	UPL	Nt P-Forb	ROSIN WEED
SOLCAR	0	SOLANUM CAROLINENSE	4	FACU-	Ad P-Forb	HORSE NETTLE
SOLALT	1	Solidago altissima	3	FACU	Nt P-Forb	TALL GOLDENROD
SOLRIG	4	Solidago rigida	4	FACU-	Nt P-Forb	STIFF GOLDENROD
SORNUT	5	Sorghastrum nutans	2	FACU+	Nt P-Grass	INDIAN GRASS
TEUCAN	3	Teucrium canadense	-3	FACW	Nt P-Forb	GERMANDER

TRANSECT STRING

>

QUAD	1
ACRONYM	COVER
CONSEP	1
ERIVIL	1
PANVIR	5
SETGLA	1
SOLCAR	1
TEUCAN	1

>

QUAD	2
ACRONYM	COVER
AGRREP	1
ANDGER	2
ASTNOV	1
PANVIR	5
SOLALT	3

>

QUAD	3
ACRONYM	COVER
ANDGER	5
ASTNOV	1
HELMOL	4
OENBIE	1
PANVIR	2
SETGLA	1
SOLALT	1

>

QUAD	4
ACRONYM	COVER
ANDGER	4
ASTERI	1
ASTNOV	1
PANVIR	3
SETFAB	2
SOLALT	2

>

QUAD	5
ACRONYM	COVER
ANDGER	3
ANDSCO	2
ASTERI	1
PENDIG	1
POAPRA	1
SETGLA	2
SOLALT	2

>

QUAD	6
ACRONYM	COVER
PANVIR	4
SETGLA	2
SILINI	1
SOLALT	2
SORNUT	1

>

QUAD	7
ACRONYM	COVER
AGRREP	2
ANDGER	3
ASTERI	2
ASTNOV	2
PANVIR	2
SILINI	3
SOLRIG	2

>

QUAD	8
ACRONYM	COVER
AMBARE	1
ANDGER	3
ASTERI	1
BOUCUR	3
CORVAR	1
SETGLA	2

>

QUAD	9
ACRONYM	COVER
AGRREP	4
CORVAR	1
MONFIS	2
POAPRA	3
POLCOC	2

>

QUAD	10
ACRONYM	COVER
AGRREP	4
DAUCAR	2
MONFIS	2
NEPCAT	1
POAPRA	1
SETFAB	2
SOLALT	2

Site: Blackwell Prairie
Locale: **Transect 4**
Date: September 16, 2011
By: Conservation Design Forum (K Johnson)

Section 1

TRANSECT DATA, QUADRAT

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS	MW SEQ	W/Ad
1	4.5	2.3	9.0	6.4	1.0	1.8	4	8	2.7	2.9
2	0.0	0.0	0.0	0.0	4.5	4.0	2	4	2.2	2.5
3	3.5	2.3	7.0	5.7	1.0	1.8	4	6	2.2	2.4
4	4.3	4.3	8.5	8.5	1.3	1.3	4	4	1.5	1.8
5	4.0	4.0	8.0	8.0	2.3	2.3	4	4	1.9	1.9
6	4.7	4.7	11.4	11.4	2.2	2.2	6	6	2.4	2.4
7	6.0	6.0	12.0	12.0	2.8	2.8	4	4	2.3	2.3
8	5.0	5.0	8.7	8.7	2.0	2.0	3	3	2.2	2.2
9	5.0	5.0	10.0	10.0	1.8	1.8	4	4	2.2	2.2
10	4.1	4.1	11.0	11.0	3.0	3.0	7	7	2.4	2.4
AVG	4.1	3.8	8.6	8.2	2.2	2.3	4.2	5.0		
STD	1.6	1.8	3.4	3.5	1.1	0.8	1.4	1.6		

Section 2

C	NUMBER	
0	4	
1	1	
2	0	0 to 3
3	0	26.3%
4	4	
5	7	
6	0	4 to 7
7	0	57.9%
8	2	
9	1	8 to 10
10	0	15.8%

19	NATIVE SPECIES
25	TOTAL SPECIES
4.1	NATIVE MEAN C
3.1	W/Adventives
17.7	NATIVE FQI
15.4	W/Adventives
2.9	NATIVE MEAN W
2.9	W/Adventives

Native	19	76.0%	Adventive	6	24.0%
Tree	0	0.0%	Tree	1	4.0%
Shrub	0	0.0%	Shrub	0	0.0%
W-Vine	0	0.0%	W-Vine	0	0.0%
H-Vine	0	0.0%	H-Vine	0	0.0%
P-Forb	12	48.0%	P-Forb	1	4.0%
B-Forb	0	0.0%	B-Forb	0	0.0%
A-Forb	2	8.0%	A-Forb	1	4.0%
P-Grass	5	20.0%	P-Grass	1	4.0%
A-Grass	0	0.0%	A-Grass	2	8.0%
P-Sedge	0	0.0%	P-Sedge	0	0.0%
A-Sedge	0	0.0%	A-Sedge	0	0.0%
Cryptogam	0	0.0%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOGNOMY	FRQ	COV	RFRQ	RCOV	RIV
Nt P-Grass	18	58	36.0	51.8	43.9
Nt P-Forb	22	37	44.0	33.0	38.5
Ad P-Grass	2	9	4.0	8.0	6.0
Ad A-Grass	2	2	4.0	1.8	2.9
Nt A-Forb	2	2	4.0	1.8	2.9
Ad P-Forb	2	2	4.0	1.8	2.9
Ad A-Forb	1	1	2.0	0.9	1.4
Ad Tree	1	1	2.0	0.9	1.4

Section 3

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Panicum virgatum	5	FAC+	7	22	14.0	19.6	16.8
Sorghastrum nutans	5	FACU+	6	20	12.0	17.9	14.9
Andropogon gerardii	5	FAC-	3	10	6.0	8.9	7.5
Solidago altissima	1	FACU	3	9	6.0	8.0	7.0
Silphium laciniatum	5	UPL	3	7	6.0	6.3	6.1
FESTUCA ELATIOR	0	FACU+	2	9	4.0	8.0	6.0
Heliopsis helianthoides	5	UPL	4	4	8.0	3.6	5.8
Aster novae-angliae	4	FACW	3	3	6.0	2.7	4.3
Monarda fistulosa	4	FACU	2	3	4.0	2.7	3.3
CIRSIUM ARVENSE	0	UPL	2	2	4.0	1.8	2.9
Andropogon scoparius	5	FACU-	1	4	2.0	3.6	2.8
Helianthus mollis	9	UPL	1	3	2.0	2.7	2.3
Baptisia leucantha	8	FACU+	1	2	2.0	1.8	1.9
Bouteloua curtipendula	8	UPL	1	2	2.0	1.8	1.9
Silphium integrifolium	5	UPL	1	2	2.0	1.8	1.9
ABUTILON THEOPHRASTI	0	FACU-	1	1	2.0	0.9	1.4
Asclepias syriaca	0	UPL	1	1	2.0	0.9	1.4
ERIOCHLOA VILLOSA	0	UPL	1	1	2.0	0.9	1.4
MORUS ALBA	0	FAC	1	1	2.0	0.9	1.4
Physalis subglabrata	0	UPL	1	1	2.0	0.9	1.4
Polygonum pensylvanicum	0	FACW+	1	1	2.0	0.9	1.4
Ratibida pinnata	4	UPL	1	1	2.0	0.9	1.4
SETARIA VIRIDIS	0	[FAC-]	1	1	2.0	0.9	1.4
Solanum americanum	0	FACU-	1	1	2.0	0.9	1.4
Solidago rigida	4	FACU-	1	1	2.0	0.9	1.4
			50	112			

Section 4

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
ABUTHE	0	ABUTILON THEOPHRASTI	4	FACU-	Ad A-Forb	VELVETLEAF
ANDGER	5	Andropogon gerardii	1	FAC-	Nt P-Grass	BIG BLUESTEM GRASS
ANDSCO	5	Andropogon scoparius	4	FACU-	Nt P-Grass	LITTLE BLUESTEM GRASS
ASCSYR	0	Asclepias syriaca	5	UPL	Nt P-Forb	COMMON MILKWEED
ASTNOV	4	Aster novae-angliae	-3	FACW	Nt P-Forb	NEW ENGLAND ASTER
BAPLEA	8	Baptisia leucantha	2	FACU+	Nt P-Forb	WHITE WILD INDIGO
BOUCUR	8	Bouteloua curtipendula	5	UPL	Nt P-Grass	SIDE-OATS GRAMA
CIRARV	0	CIRSIUM ARVENSE	5	UPL	Ad P-Forb	FIELD THISTLE
ERIVIL	0	ERIOCHLOA VILLOSA	5	UPL	Ad A-Grass	CHINESE CUP GRASS
FESELA	0	FESTUCA ELATIOR	2	FACU+	Ad P-Grass	TALL FESCUE
HELMOL	9	Helianthus mollis	5	UPL	Nt P-Forb	DOWNY SUNFLOWER
HELHEL	5	Heliopsis helianthoides	5	UPL	Nt P-Forb	FALSE SUNFLOWER
MONFIS	4	Monarda fistulosa	3	FACU	Nt P-Forb	WILD BERGAMOT
MORALB	0	MORUS ALBA	0	FAC	Ad Tree	WHITE MULBERRY
PANVIR	5	Panicum virgatum	-1	FAC+	Nt P-Grass	SWITCH GRASS
PHYSUB	0	Physalis subglabrata	5	UPL	Nt P-Forb	TALL GROUND CHERRY
POLPEN	0	Polygonum pensylvanicum	-4	FACW+	Nt A-Forb	PINKWEED
RATPIN	4	Ratibida pinnata	5	UPL	Nt P-Forb	YELLOW CONEFLOWER

SETVIV	0	SETARIA VIRIDIS	1	[FAC-]	Ad A-Grass GREEN FOXTAIL
SILINI	5	Silphium integrifolium	5	UPL	Nt P-Forb ROSIN WEED
SILLAC	5	Silphium laciniatum	5	UPL	Nt P-Forb COMPASS PLANT
SOLAME	0	Solanum americanum	4	FACU-	Nt A-Forb BLACK NIGHTSHADE
SOLALT	1	Solidago altissima	3	FACU	Nt P-Forb TALL GOLDENROD
SOLRIG	4	Solidago rigida	4	FACU-	Nt P-Forb STIFF GOLDENROD
SORNUT	5	Sorghastrum nutans	2	FACU+	Nt P-Grass INDIAN GRASS

TRANSECT STRING

>

QUAD	1
ACRONYM	COVER
ABUTHE	1
ANDSCO	4
BOUCUR	2
ERIVIL	1
MORALB	1
PANVIR	2
POLPEN	1
SETVIV	1

>

QUAD	2
ACRONYM	COVER
CIRARV	1
FESELA	5
PHYSUB	1
SOLAME	1

>

QUAD	3
ACRONYM	COVER
ANDGER	1
ASTNOV	1
CIRARV	1
FESELA	4
MONFIS	2
SOLALT	4

>

QUAD	4
ACRONYM	COVER
ASTNOV	1
BAPLEA	2
MONFIS	1
SOLALT	4

>

QUAD	5
ACRONYM	COVER
PANVIR	2
SILINI	2
SOLALT	1
SORNUT	5

>

QUAD	6
ACRONYM	COVER
ASTNOV	1
HELHEL	1
PANVIR	5
RATPIN	1
SILLAC	2
SORNUT	1

>

QUAD	7
ACRONYM	COVER
HELMOL	3
PANVIR	5
SILLAC	3
SORNUT	1

>

QUAD	8
ACRONYM	COVER
HELHEL	1
PANVIR	4
SORNUT	5

>

QUAD	9
ACRONYM	COVER
ANDGER	5
HELHEL	1
PANVIR	2
SORNUT	4

>

QUAD	10
ACRONYM	COVER
ANDGER	4
ASCSYR	1
HELHEL	1
PANVIR	2
SILLAC	2
SOLRIG	1
SORNUT	4

APPENDIX III

TRANSECT RELATIVE IMPORTANCE VALUES

Tables A—D included in this appendix summarize the relative importance values (RIV) for the top 50% of species from each transect. For comparative purposes these same data from past restoration monitoring are included in the tables. Brackets ([ ]) indicate the species was recorded in the sampling but not in the top 50% for that year, and a dash (-) indicates that it was not recorded during the sampling event. Following each native species is its assigned C value (in parenthesis).

Adventive species are in ALL CAPS. Species followed by an asterisk (*) were introduced to the site as part of the initial prairie seed installation in the summer of 2001, and from subsequent reseeding efforts in 2002, 2003, and 2004.

Table A. Transect 1 species relative importance values

TRANSECT 1	RELATIVE IMPORTANCE VALUE										
SPECIES (C VALUE)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Bouteloua curtipendula (8)*	[1.5]	14.8	11.7	19.3	11.9	9.7	11.4	7.4	15.7	[2.5]	11.0
Andropogon scoparius (5)*	-	[1.6]	[1.3]	[3.9]	[1.8]	[4.7]	5.2	-	[3.5]	[1.6]	10.1
FESTUCA ELATIOR	[2.0]	7.1	[3.6]	-	[9.4]	-	8.3	[4.8]	8.7	12.1	10.1
POA PRATENSIS	-	-	[2.8]	[2.3]	-	[3.6]	5.3	[4.8]	[1.7]	15.7	8.7
CIRSIUM ARVENSE	-	-	-	[3.3]	-	[3.0]	5.6	[3.7]	[4.4]	[7.3]	7.8
Elymus canadensis (4)*	-	-	-	7.8	13.3	10.9	10.5	11.7	6.5	[4.1]	6.9
Heliopsis helianthoides (5)*	-	-	[1.8]	-	-	[3.6]	[4.3]	[2.1]	5.7	[3.6]	6.9
DACTYLUS GLOMERATA	-	-	[2.6]	9.6	[4.4]	[5.1]	[1.3]	5.9	[4.8]	13.8	[6.4]
Monarda fistulosa (4)*	-	-	-	[3.9]	[1.8]	-	-	-	[1.3]	-	[4.6]
BROMUS INERMIS	-	-	-	6.1	[3.9]	16.1	[2.6]	5.9	7.9	8.6	[1.8]
LOTUS CORNICULATUS	-	-	-	[1.6]	-	[4.1]	[2.2]	-	7.0	[1.6]	[4.1]
MELILOTUS ALBA	[2.0]	22.7	[1.3]	6.1	-	[3.0]	[3.9]	8.0	-	[1.6]	[1.4]
TRIFOLIUM PRATENSE	-	-	8.8	-	[1.8]	-	-	7.4	[3.9]	-	-
Andropogon gerardii (5)*	-	-	[3.1]	[1.6]	-	[3.6]	[3.0]	6.9	[2.2]	-	[2.3]
Ambrosia artemisiifolia (0)	-	12.3	6.7	6.1	12.6	6.0	6.1	[4.8]	[1.3]	-	-
Aster pilosus (0)	-	[2.0]	-	[5.5]	[1.8]	6.2	[1.3]	[4.3]	[3.5]	[1.6]	[2.8]
Panicum virgatum (5)*	-	-	[3.1]	[2.3]	[4.4]	5.6	[2.6]	[2.1]	-	[2.1]	[3.2]
HIBISCUS TRIONUM	9.0	[2.0]	8.0	[3.3]	13.5	[1.5]	[1.3]	[1.6]	[2.6]	-	-
Echinochloa crusgalli (0)	22.1	[5.2]	12.2	-	-	-	-	-	[1.3]	-	-
SETARIA FABERI	-	[1.6]	5.7	-	[3.2]	-	-	-	-	-	-
DIGITARIA ISCHAEMUM	24.4	-	-	-	-	-	-	-	-	-	-

Table B. Transect 2 species relative importance values

TRANSECT 2	RELATIVE IMPORTANCE VALUE										
SPECIES (C VALUE)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
BROMUS INERMIS	11.1	[2.5]	7.9	7.2	10.2	27.9	12.3	23.9	20.1	19.4	24.0
Solidago altissima (1)	-	[4.4]	4.4	[1.7]	[1.6]	[2.4]	15.7	13.6	20.6	12.6	20.5
CIRSIUM ARVENSE	[3.8]	[1.9]	[1.3]	[1.2]	-	-	[1.7]	-	[3.7]	9.5	11.5
CORONILLA VARIA	25.5	19.7	14.1	13.2	11.7	14.7	27.4	19.6	17.5	11.5	[10.7]
NEPETA CATARIA	[1.6]	[3.1]	[4.0]	[2.4]	[1.6]	9.4	[3.9]	[6.0]	[3.2]	[3.4]	[4.9]
ALLIARIA PETIOLATA	9.1	6.9	8.8	7.0	-	[1.7]	[3.4]	[3.6]	[1.6]	[3.8]	[4.3]
Aster pilosus (0)	-	-	[4.0]	6.7	[3.2]	[5.8]	[3.4]	[3.6]	[4.2]	-	-
AGROPYRON REPENS	-	-	-	4.6	10.2	[2.4]	[1.7]	[7.7]	[3.2]	-	[6.9]
Monarda fistulosa (4)*	-	-	[1.8]	-	-	[1.7]	[3.4]	[3.4]	-	[5.7]	[1.6]
Panicum virgatum (5)*	-	5.6	5.3	[2.2]	[3.2]	-	[1.7]	-	-	-	-
Bouteloua curtipendula (8)*	[2.7]	9.4	4.8	[1.7]	[4.5]	[2.4]	[1.7]	-	-	-	-
ATRIPLEX PATULA	5.9	-	-	[4.1]	[4.5]	-	[1.7]	[2.4]	-	[1.5]	-
Ambrosia artemisiifolia (0)	-	[2.5]	[2.6]	[1.7]	6.0	[3.0]	[1.7]	-	-	[1.5]	-
LACTUCA SERRIOLA	-	-	[3.5]	8.9	5.4	[1.7]	[1.7]	-	-	-	[1.6]
SOIL	[2.1]	11.0	-	-	7.3	-	-	-	-	-	-
Erigeron canadensis (0)	-	-	-	4.6	[1.6]	[1.7]	-	-	-	-	-
LEPIDIUM CAMPESTRE	-	-	6.1	-	-	-	-	-	-	-	-

Table C. Transect 3 species relative importance values

TRANSECT 3	RELATIVE IMPORTANCE VALUE										
SPECIES (C VALUE)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Panicum virgatum (5)*	-	[5.6]	[9.6]	[3.9]	10.7	7.4	8.3	9.8	15.8	8.1	13.3
Andropogon gerardii (5)*	-	[1.9]	[1.8]	-	[4.3]	[1.4]	[4.3]	9.8	4.9	3.4	12.9
Solidago altissima (1)	-	-	-	-	-	[2.9]	7.0	7.1	5.4	7.3	9.7
AGROPYRON REPENS	-	-	-	11.7	10.1	10.5	8.0	12.9	14.7	7.3	7.7
SETARIA GLAUCA	-	[6.8]	[1.4]	-	[1.5]	-	[3.5]	[3.5]	-	4.9	7.3
POA PRATENSIS	-	[4.9]	12.9	16.7	[4.3]	[5.4]	5.6	[1.8]	[1.5]	5.7	[4.5]
DAUCUS CAROTA	-	-	-	-	-	[1.4]	[2.3]	[2.3]	[3.4]	4.2	[1.6]
Aster pilosus (0)	[1.3]	-	-	[5.8]	10.1	9.2	[1.2]	6.7	[3.4]	3.8	-
BROMUS INERMIS	-	-	-	-	-	9.6	-	-	-	3.8	-
CORONILLA VARIA	-	[1.5]	-	[1.4]	-	7.4	9.9	[1.3]	[4.4]	3.8	[2.4]
Andropogon scoparius (5)*	-	-	-	[1.4]	5.2	6.5	[3.6]	[4.4]	-	3.4	[1.6]
Asclepias verticillata (1)	-	-	-	-	[1.5]	-	[1.2]	[1.2]	-	3.4	-
Aster ericoides (5)*	-	-	-	-	[2.1]	-	-	[1.3]	5.9	3.4	[5.3]
Aster novae-angliae (4)*	-	-	-	[2.4]	[1.5]	[4.3]	5.5	[3.6]	[2.9]	3.4	[5.3]
Desmodium canadense (4)*	-	-	-	-	-	[1.4]	-	-	[2.0]	3.4	-
Silphium laciniatum (5)*	-	-	-	-	-	[1.4]	-	[1.3]	5.4	[1.1]	-
Silphium integrifolium (5)*	-	-	-	[1.4]	-	[4.9]	-	[2.2]	4.9	[1.5]	[3.2]
Sorghastrum nutans (5)*	-	-	[1.8]	-	[1.5]	-	-	[2.7]	4.9	[1.9]	[1.2]
Bouteloua curtipendula (8)*	-	[6.8]	12.4	7.3	8.5	[2.0]	5.2	7.6	[1.5]	-	[2.0]
Ambrosia artemisiifolia (0)	[2.5]	7.2	11.9	7.2	5.2	-	5.0	[1.3]	[2.9]	[1.1]	[1.2]
Ambrosia trifida (0)	-	[6.8]	13.2	[3.9]	7.7	-	[1.2]	-	[1.5]	[1.5]	-
BROMUS TECTORUM	-	-	-	7.8	[3.1]	-	[1.2]	-	-	-	-
Solidago canadensis (1)	[1.3]	-	-	[3.4]	5.2	[1.4]	-	-	-	-	-

TRANSECT 3	RELATIVE IMPORTANCE VALUE										
SPECIES (C VALUE)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
SETARIA FABERI	21.9	16.7	[2.3]	[1.4]	-	[1.4]	-	[1.3]	[1.5]	-	[3.2]
Echinochloa crusgalli (0)	21.9	14.0	-	-	-	-	-	-	-	-	-
Polygonum pensylvanicum (0)	7.7	12.5	-	-	-	[2.5]	-	[1.3]	[1.5]	[1.1]	-

Table D. Transect 4 species relative importance values

TRANSECT 4	RELATIVE IMPORTANCE VALUE										
SPECIES (C VALUE)	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Panicum virgatum (5)*	-	5.2	[3.4]	9.4	9.2	12.0	12.7	14.4	16.9	13.0	16.8
Sorghastrum nutans (5)*	-	[1.8]	[2.4]	11.3	[4.4]	15.4	15.0	8.9	9.3	15.0	14.9
Andropogon gerardii (5)*	-	[3.0]	7.2	[1.9]	11.4	-	[6.8]	9.7	8.5	6.8	7.5
Solidago altissima (1)	-	-	-	-	[1.6]	[2.8]	-	[4.9]	[1.8]	6.7	7.0
Silphium laciniatum (5)*	-	-	[1.0]	[1.9]	[1.6]	[1.9]	[2.3]	[4.0]	[1.3]	[2.2]	6.1
Heliopsis helianthoides (5)*	-	[2.2]	4.4	[3.3]	[1.6]	[2.8]	[1.4]	[1.4]	[5.4]	[3.6]	[5.8]
CIRSIUM ARVENSE	-	[3.3]	4.4	[4.1]	-	[1.4]	[4.1]	[3.2]	[1.3]	[1.4]	[2.9]
Andropogon scoparius (5)*	-	[1.5]	5.6	17.1	12.6	13.6	18.6	13.4	13.8	[4.5]	[2.8]
Bouteloua curtipendula (8)*	-	14.4	7.3	10.3	15.4	8.2	7.3	8.1	8.1	[3.2]	[1.9]
Silphium integrifolium (5)*	-	-	-	-	[3.8]	[5.8]	-	[1.8]	[4.0]	7.7	[1.9]
BROMUS INERMIS	-	[1.5]	-	-	-	[5.8]	[3.2]	-	-	5.7	-
CHENOPODIUM ALBUM	7.6	-	-	-	-	-	[2.7]	-	-	-	-
SETARIA FABERI	-	14.7	[3.8]	[1.4]	-	-	[2.7]	[1.8]	[1.3]	[1.4]	-
ABUTILON THEOPHRASTI	8.3	[2.6]	-	-	-	-	[1.4]	-	-	[1.4]	[1.4]
AGROPYRON REPENS	-	-	-	[5.7]	5.6	7.7	-	[5.3]	[6.2]	[5.0]	-
Aster pilosus (0)	-	-	[1.0]	7.5	[4.4]	[2.8]	-	[1.4]	[1.3]	-	-
Rudbeckia hirta (1)*	[1.1]	4.4	5.8	[3.3]	-	-	-	-	-	-	-
Echinochloa crusgalli (0)	11.3	7.4	-	-	-	-	-	-	-	-	-
LOLIUM MULTIFLORUM	14.7	[1.5]	5.0	-	-	-	-	-	-	-	-
Polygonum pensylvanicum (0)	12.1	-	[1.0]	-	-	[1.9]	-	-	[1.8]	-	[1.4]
SETARIA GLAUCA	[4.5]	6.3	[1.0]	[1.4]	[1.6]	-	-	-	-	[1.8]	-
LACTUCA SERRIOLA	-	[3.3]	10.5	-	-	-	-	-	-	-	-

APPENDIX IV

SEEDED SPECIES RECRUITMENT

An alphabetical list of the 37 native species that were seeded as part of the prairie landscape installation in May and June of 2001 is presented in the four tables on the following two pages. Each species is listed along with its C value (in parenthesis). If the species was recorded from the site during the September 2011 monitoring event it is indicated with a "Y", and if not it is indicated with a "N". The columns to the right summarize the RIV of each species if recorded during the transect sampling; these same data from the previous monitoring years are shown for comparison.

Twenty-seven (27) of these 37 seeded species were recorded from the site during the monitoring event in September of 2011. See the report for more information.

Transect 1 Relative Importance Values of Seeded Prairie Species

Species (C Value)	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11
Andropogon gerardii (5) Y	-	-	3.1	1.6	-	3.6	3.0	6.9	2.2	-	2.3
Andropogon scoparius (5) Y	-	1.6	1.3	3.9	1.8	4.7	5.2	-	3.5	1.6	10.1
Aquilegia canadensis (6)	-	-	-	-	-	-	-	-	-	-	-
Aster azureus (8)	-	-	-	-	-	-	-	-	-	-	-
Aster ericoides (5) Y	-	-	-	-	-	-	-	-	-	-	-
Aster laevis (9)	-	-	-	-	-	-	-	-	-	-	-
Aster novae-angliae (4) Y	-	-	-	-	-	-	-	-	-	-	-
Astragalus canadensis (10)	-	-	-	-	-	-	-	-	-	-	-
Baptisia leucantha (8) Y	-	-	-	-	-	-	-	-	-	-	-
Bouteloua curtipendula (8) Y	1.5	14.8	11.7	19.3	11.9	9.7	11.4	7.4	15.7	2.5	11.0
Coreopsis palmata (6)	-	-	-	-	-	-	-	-	-	-	-
Coreopsis tripteris (5) Y	-	-	-	-	-	-	-	-	-	-	-
Desmodium canadense (4) Y	-	-	-	-	-	-	-	-	-	-	-
Echinacea purpurea (3) Y	1.5	-	1.3	-	-	-	-	-	-	-	-
Elymus canadensis (4) Y	-	-	-	7.8	13.3	10.9	10.5	11.7	6.5	4.1	6.9
Eryngium yuccifolium (9) Y	-	-	-	-	-	-	-	-	-	-	-
Helianthus mollis (9) Y	-	-	-	-	-	-	-	-	-	-	-
Helianthus rigidus (8)	-	-	-	-	-	-	-	-	-	-	-
Heliopsis helianthoides (5) Y	-	1.6	1.8	-	-	3.6	4.3	2.1	5.7	3.6	6.9
Lespedeza capitata (4) Y	-	-	-	-	-	-	-	-	-	-	-
Liatris spicata (6)	-	-	-	-	-	-	-	-	-	-	-
Monarda fistulosa (4) Y	-	-	-	3.9	1.8	-	-	-	1.3	-	4.6
Panicum virgatum (5) Y	-	-	3.1	2.3	4.4	5.6	2.6	2.1	-	2.1	3.2
Parthenium integrifolium (8) Y	-	-	-	-	-	-	-	-	-	-	-
Penstemon digitalis (4) Y	-	-	-	-	-	-	-	-	-	-	-
Petalostemum purpureum (9) Y	-	-	-	-	-	-	-	-	-	-	-
Physostegia virginiana (6)	-	-	-	-	-	-	-	-	-	-	-
Pycnanthemum virginianum (5) Y	-	-	-	-	-	-	-	-	-	-	-
Ratibida pinnata (4) Y	-	-	-	-	-	-	1.3	1.6	-	1.6	1.8
Rudbeckia hirta (1) Y	3.5	2.0	-	-	-	-	-	-	-	-	-
Silphium integrifolium (5) Y	-	-	-	-	-	-	-	-	-	-	-
Silphium laciniatum (5) Y	-	-	-	-	-	-	-	-	-	-	-
Silphium terebinthinaceum (5) Y	-	-	-	-	-	-	-	-	-	-	-
Solidago graminifolia (4)	-	-	-	-	-	-	-	-	-	-	-
Solidago nemoralis (4)	-	-	-	-	-	-	-	-	-	-	-
Solidago rigida (4) Y	-	-	-	-	-	-	-	-	1.3	-	-
Sorghastrum nutans (5) Y	-	-	-	-	-	1.5	2.2	-	1.7	-	-

Transect 2 Relative Importance Values of Seeded Prairie Species

Species (C Value)	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11
Andropogon gerardii (5) Y	-	-	-	1.7	-	-	2.2	-	-	-	-
Andropogon scoparius (5) Y	-	-	-	1.7	-	-	2.2	-	-	-	-
Aquilegia canadensis (6)	-	-	-	-	-	-	-	-	-	-	-
Aster azureus (8)	-	-	-	-	-	-	-	-	-	-	-
Aster ericoides (5) Y	-	-	-	-	-	-	-	-	-	-	-
Aster laevis (9)	-	-	-	-	-	-	-	-	-	-	-
Aster novae-angliae (4) Y	-	-	-	-	-	1.7	-	-	4.2	2.3	-
Astragalus canadensis (10)	-	-	-	-	-	-	-	-	-	-	-
Baptisia leucantha (8) Y	-	-	-	-	-	-	-	-	-	-	-
Bouteloua curtipendula (8) Y	2.7	9.4	4.8	1.7	4.5	2.4	1.7	-	-	-	-
Coreopsis palmata (6)	-	-	-	-	-	-	-	-	-	-	-
Coreopsis tripteris (5) Y	-	-	-	-	-	-	-	-	-	-	-
Desmodium canadense (4) Y	-	-	-	-	-	-	-	-	1.6	-	-
Echinacea purpurea (3) Y	2.1	-	-	-	-	-	-	-	-	-	-
Elymus canadensis (4) Y	-	-	-	1.2	1.6	-	-	-	-	-	-
Eryngium yuccifolium (9) Y	-	-	-	-	-	-	-	-	-	-	-
Helianthus mollis (9) Y	-	-	-	-	-	-	-	-	-	-	-
Helianthus rigidus (8)	-	-	-	-	-	-	-	-	-	-	-
Heliopsis helianthoides (5) Y	1.6	-	-	-	-	-	-	-	-	-	-
Lespedeza capitata (4) Y	-	-	-	-	-	-	-	-	-	-	-
Liatris spicata (6)	-	-	-	-	-	-	-	-	-	-	-
Monarda fistulosa (4) Y	1.6	-	1.8	-	-	1.7	3.4	2.4	-	5.7	1.6
Panicum virgatum (5) Y	-	5.6	5.3	2.2	3.2	-	1.7	-	-	-	-
Parthenium integrifolium (8) Y	-	-	-	-	-	-	-	-	-	-	-
Penstemon digitalis (4) Y	-	-	-	-	-	-	-	-	-	-	-
Petalostemum purpureum (9) Y	-	-	-	-	-	-	-	-	-	-	-
Physostegia virginiana (6)	-	-	-	-	-	-	-	-	-	-	-
Pycnanthemum virginianum (5) Y	-	-	-	-	-	-	-	-	-	-	-
Ratibida pinnata (4) Y	-	-	-	1.2	3.2	-	1.7	6.6	1.6	-	1.6
Rudbeckia hirta (1) Y	2.1	-	-	1.2	-	-	-	-	-	-	-
Silphium integrifolium (5) Y	-	-	-	-	-	-	-	-	-	-	-
Silphium laciniatum (5) Y	-	-	-	-	-	-	-	-	-	-	-
Silphium terebinthinaceum (5) Y	-	-	-	-	-	-	-	-	-	-	-
Solidago graminifolia (4)	-	-	-	-	-	-	-	-	-	-	-
Solidago nemoralis (4)	-	-	-	-	-	-	-	-	-	-	-
Solidago rigida (4) Y	-	-	-	-	1.6	-	-	-	-	-	-
Sorghastrum nutans (5) Y	1.6	5.0	2.6	1.2	-	-	1.7	-	-	-	-

Transect 3 Relative Importance Values of Seeded Prairie Species

Species (C Value)	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11
Andropogon gerardii (5) Y	-	1.9	1.8	-	4.3	1.4	4.3	9.8	4.9	3.4	12.9
Andropogon scoparius (5) Y	-	-	-	1.4	5.2	6.5	3.6	4.4	-	3.4	1.6
Aquilegia canadensis (6)	-	-	-	-	-	-	-	-	-	-	-
Aster azureus (8)	-	-	-	-	-	-	-	-	-	-	-
Aster ericoides (5) Y	-	-	-	-	-	-	-	1.3	5.9	3.4	5.3
Aster laevis (9)	-	-	-	-	-	-	-	-	-	-	-
Aster novae-angliae (4) Y	-	-	-	2.4	1.5	4.3	5.5	3.6	2.9	3.4	5.3
Astragalus canadensis (10)	-	-	-	-	-	-	-	-	-	-	-
Baptisia leucantha (8) Y	-	-	-	-	-	-	-	-	-	-	-
Bouteloua curtipendula (8) Y	-	6.8	12.4	7.3	8.5	2.0	5.2	7.6	1.5	-	2.0
Coreopsis palmata (6)	-	-	-	-	-	-	-	-	-	-	-
Coreopsis tripteris (5) Y	-	-	-	-	-	-	-	-	-	-	-
Desmodium canadense (4) Y	-	-	-	-	-	1.4	-	-	2.0	3.4	-
Echinacea purpurea (3) Y	-	-	-	-	-	-	-	-	-	-	-
Elymus canadensis (4) Y	-	1.5	4.5	5.8	-	2.9	1.2	3.1	-	-	-
Eryngium yuccifolium (9) Y	-	-	-	-	-	-	-	-	-	-	-
Helianthus mollis (9) Y	-	-	-	1.9	2.1	1.4	-	4.4	-	3.1	2.4
Helianthus rigidus (8)	-	-	-	-	-	-	-	-	-	-	-
Heliopsis helianthoides (5) Y	-	-	-	-	3.7	1.4	-	1.3	2.9	3.1	-
Lespedeza capitata (4) Y	-	-	-	-	-	-	-	-	-	-	-
Liatris spicata (6)	-	-	-	-	-	-	-	-	-	-	-
Monarda fistulosa (4) Y	-	-	1.4	1.4	-	2.0	-	-	-	-	3.2
Panicum virgatum (5) Y	-	5.6	9.6	3.9	10.7	7.4	8.3	9.8	15.8	8.1	13.3
Parthenium integrifolium (8) Y	-	-	-	-	-	-	-	-	-	-	-
Penstemon digitalis (4) Y	-	-	-	-	-	-	-	-	-	-	1.2
Petalostemum purpureum (9) Y	-	-	-	-	-	-	-	-	-	-	-
Physostegia virginiana (6)	-	-	-	-	-	-	-	-	-	-	-
Pycnanthemum virginianum (5) Y	-	-	-	-	-	-	-	-	-	1.9	-
Ratibida pinnata (4) Y	-	-	-	-	-	2.0	-	5.4	2.9	-	-
Rudbeckia hirta (1) Y	-	-	1.4	-	-	-	3.5	1.3	1.5	1.1	-
Silphium integrifolium (5) Y	-	-	-	1.4	-	4.9	-	2.2	4.9	1.5	3.2
Silphium laciniatum (5) Y	-	-	-	-	-	1.4	-	1.3	5.4	1.1	-
Silphium terebinthinaceum (5) Y	-	-	-	-	-	-	1.2	1.3	-	-	-
Solidago graminifolia (4)	-	-	-	-	-	-	-	-	-	-	-
Solidago nemoralis (4)	-	-	-	-	-	-	-	-	-	-	-
Solidago rigida (4) Y	-	-	-	-	1.5	1.4	-	1.8	-	1.1	1.6
Sorghastrum nutans (5) Y	-	-	1.8	-	1.5	-	-	2.7	4.9	1.9	1.2

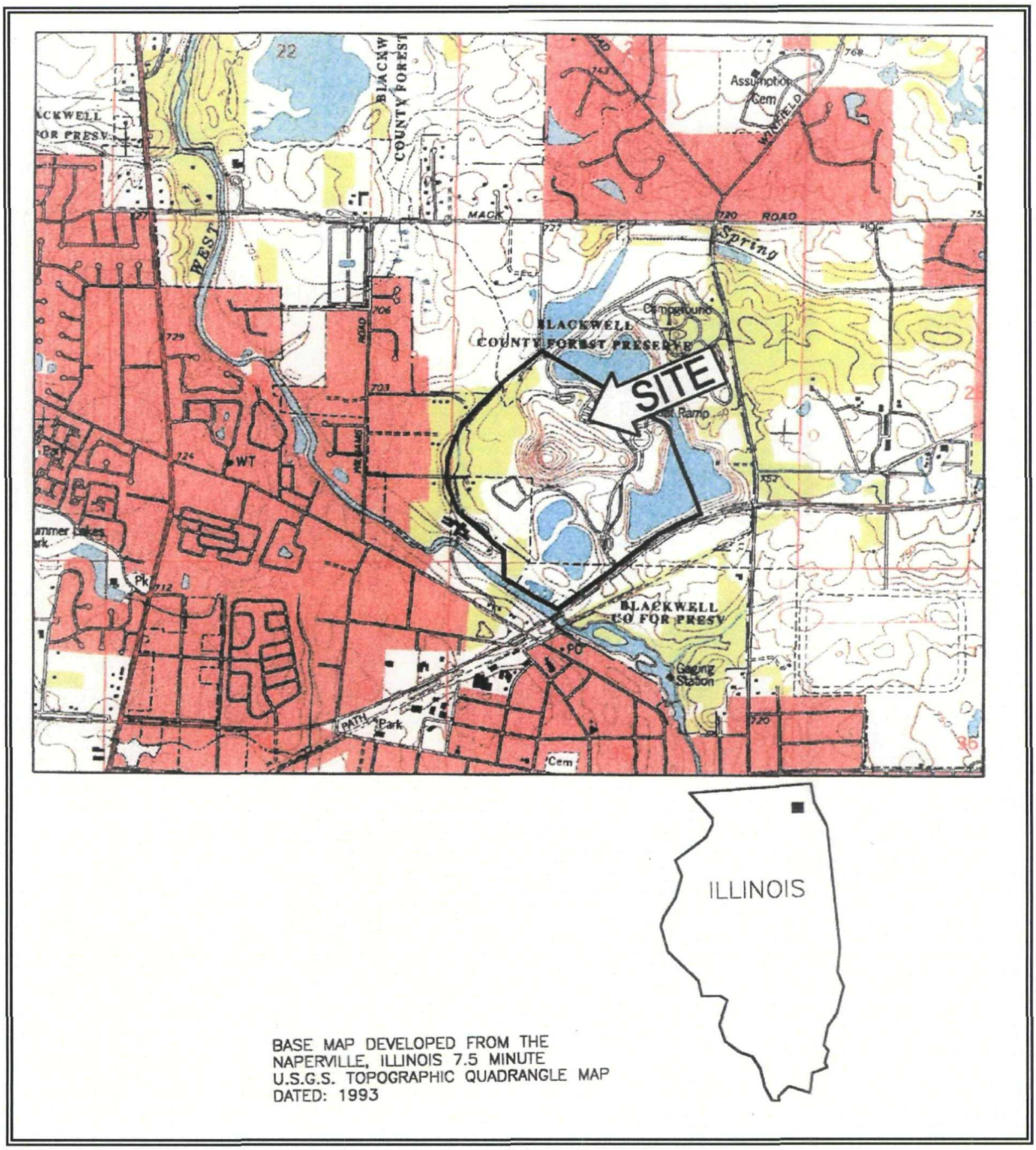
Transect 4 Relative Importance Values of Seeded Prairie Species

Species (C Value)	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11
Andropogon gerardii (5) Y	-	3.0	7.2	1.9	11.4	-	6.8	9.7	8.5	6.8	7.5
Andropogon scoparius (5) Y	-	1.5	5.6	17.1	12.6	13.6	18.6	13.4	13.8	4.5	2.8
Aquilegia canadensis (6)	-	-	-	-	-	-	-	-	-	-	-
Aster azureus (8)	-	-	-	-	-	-	-	-	-	-	-
Aster ericoides (5) Y	-	-	2.4	1.9	-	3.9	2.7	-	4.5	-	-
Aster laevis (9)	-	-	-	-	3.4	-	-	-	-	-	-
Aster novae-angliae (4) Y	-	-	2.0	-	3.2	3.3	-	-	1.8	3.6	4.3
Astragalus canadensis (10)	-	-	-	-	-	-	-	-	-	-	-
Baptisia leucantha (8) Y	-	-	-	-	-	-	-	-	-	-	1.9
Bouteloua curtipendula (8) Y	-	14.4	7.3	10.3	15.4	8.2	7.3	8.1	8.1	3.2	1.9
Coreopsis palmata (6)	-	-	-	-	-	-	-	-	-	-	-
Coreopsis tripteris (5) Y	-	-	-	-	-	-	-	3.2	-	-	-
Desmodium canadense (4) Y	-	-	-	-	-	1.4	1.4	1.8	-	1.8	-
Echinacea purpurea (3) Y	-	-	3.0	2.8	-	-	-	-	-	-	-
Elymus canadensis (4) Y	-	1.1	3.8	6.0	1.6	-	-	2.2	-	-	-
Eryngium yuccifolium (9) Y	-	-	-	-	-	-	-	-	-	-	-
Helianthus mollis (9) Y	-	-	1.0	-	-	-	1.8	-	1.8	2.2	2.3
Helianthus rigidus (8)	-	-	-	-	-	-	-	-	-	-	-
Heliopsis helianthoides (5) Y	-	2.2	4.4	3.3	1.6	2.8	1.4	1.4	5.4	3.6	5.8
Lespedeza capitata (4) Y	-	-	-	-	-	-	-	-	-	-	-
Liatris spicata (6)	-	-	-	-	-	-	-	-	-	-	-
Monarda fistulosa (4) Y	1.1	-	1.0	-	-	-	1.8	5.0	7.7	3.2	3.3
Panicum virgatum (5) Y	-	5.2	3.4	9.4	9.2	12.0	12.7	14.4	16.9	13.0	16.8
Parthenium integrifolium (8) Y	-	-	-	-	-	-	1.4	-	-	-	-
Penstemon digitalis (4) Y	-	-	-	-	-	-	-	-	-	-	-
Petalostemum purpureum (9) Y	-	-	-	1.4	1.6	-	-	-	-	-	-
Physostegia virginiana (6)	-	-	-	-	-	-	-	-	-	-	-
Pycnanthemum virginianum (5) Y	-	-	-	-	-	1.4	1.8	-	-	-	-
Ratibida pinnata (4) Y	-	-	-	-	2.2	4.8	1.8	3.2	1.3	-	1.4
Rudbeckia hirta (1) Y	1.1	4.4	5.8	3.3	-	-	-	-	-	-	-
Silphium integrifolium (5) Y	-	-	-	-	3.8	5.8	-	1.8	4.0	7.7	1.9
Silphium laciniatum (5) Y	-	-	1.0	1.9	1.6	1.9	2.3	4.0	1.3	2.2	6.1
Silphium terebinthinaceum (5) Y	-	-	-	-	1.6	1.4	-	-	2.2	4.0	-
Solidago graminifolia (4)	-	-	-	-	-	-	-	-	-	-	-
Solidago nemoralis (4)	-	-	-	-	-	-	-	-	-	-	-
Solidago rigida (4) Y	-	-	-	1.9	-	-	1.8	1.8	1.8	-	1.4
Sorghastrum nutans (5) Y	-	1.8	2.4	11.3	4.4	15.4	15.0	8.9	9.3	15.0	14.9

EXHIBITS

BLACKWELL LANDFILL PRAIRIE RESTORATION

Warrenville – DuPage County, Illinois



Project Number:
11036.00

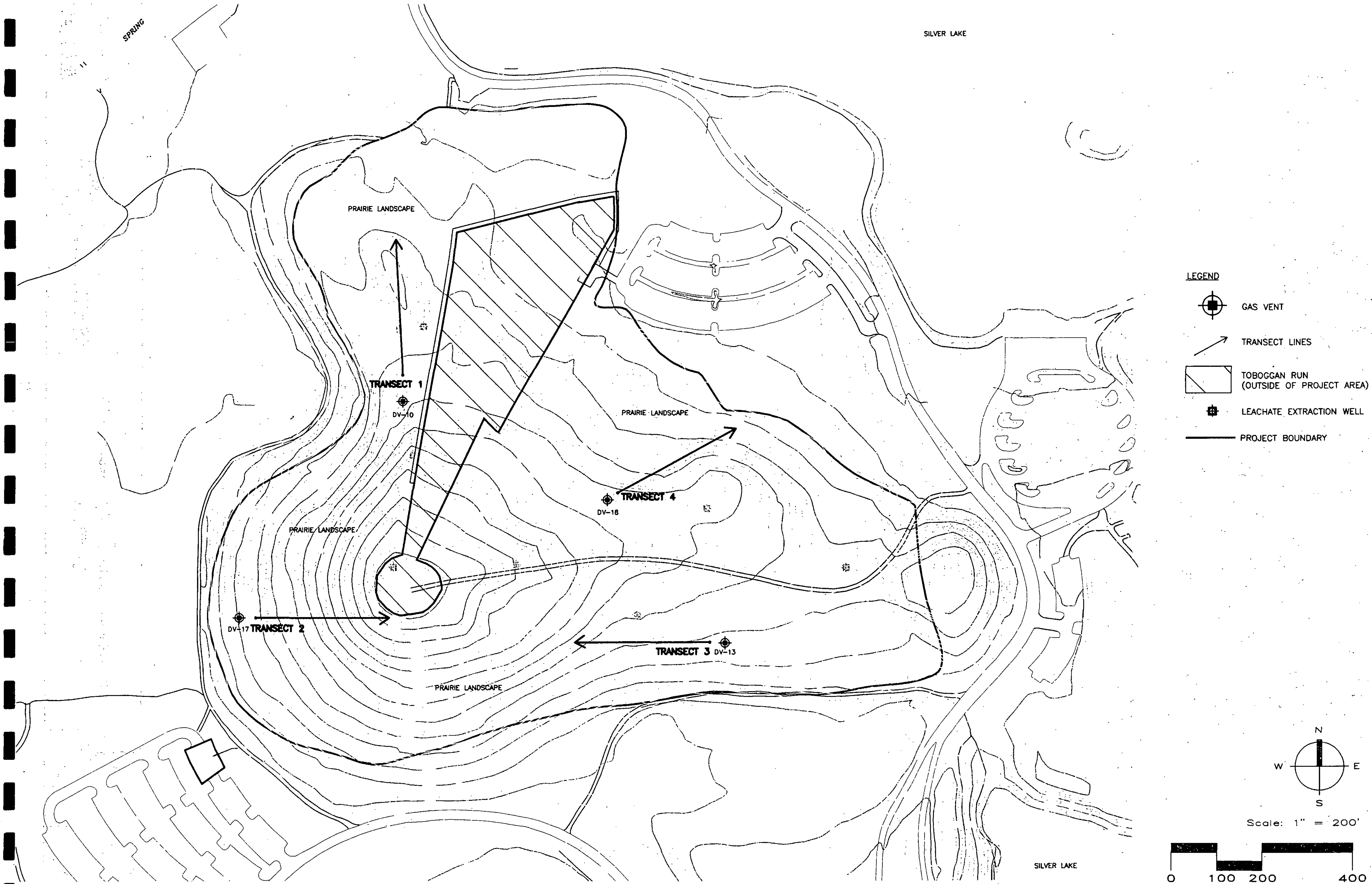
Date:
January 2012

Scale:
Not to Scale

EXHIBIT A

PROJECT LOCATION MAP

CONSERVATION DESIGN FORUM



Landscape Architecture
Community Planning
Ecological Restoration
Resource Management

375 West First Street
Elmhurst, Illinois 60126
630.559.2000 phone
630.559.2030 fax

CONSERVATION DESIGN FORUM

Client:
MWH
175 West Jackson Boulevard
Suite 1900
Chicago, Illinois

Exhibit B
Blackwell Landfill Prairie Restoration

Date:
January 2012
drawn by HQ
Revisions: JA

Project Number: 09038.00

1

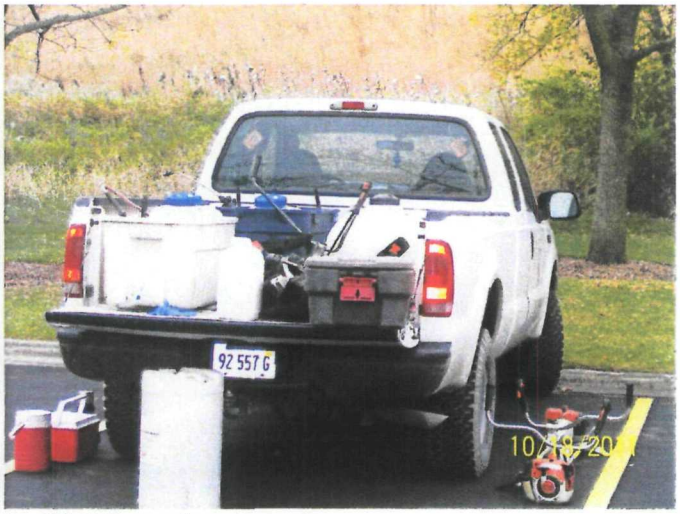
PHOTOGRAPHS

controlled burn east of toboggan run

post-burned prairie in southeast quadrant of site

burn crew

post-burned prairie north of toboggan run



herbicide and sprayers

targeted herbicide application

targeted herbicide application

mowed fire break around pine trees

Transect 1

Transect 3

Transect 2

Transect 4